## 4.11 System Management Subsystem (MSS)

### 4.11.1 Introduction

The MSS services include management application services, common management services (management framework), and management agent service. The MSS is largely in the application domain, above the OSI-RM application-layer services. Common Management Services and CSS Common Facility and Object Services support the Management Application Services. Additionally, MSS is functionally dependent upon the services of the Internetworking Subsystem.

### 4.11.2 System Management Subsystem Summary

#### 4.11.2.1 Subsystem Interfaces

Refer to Section 3 of 305-CD-030-002 for a context diagram and for more detail of the flows between subsystems. The MSS interfaces can be summarized as follows:

- o The MSS subsystem sends lifecycle commands and mode requests to all subsystems. All subsystems return as a minimum, processing status, the current mode, resource utilization, and event notification.

- o The MSS subsystem exchanges information with the Client subsystem pertaining to user registration, status, and information.

- o The MSS subsystem receives hardware and software fault and performance information from hardware and software subsystems.

- o The MSS subsystem monitors and controls software applications.

#### 4.11.2.2 CSCI Overview

##### 4.11.2.2.1 Management Software (MCI) CSCI

The MCI supports the following services:

Accountability Service—This service provides the capability to generate security, data, and user audit trails and also maintains end-to-end data accountability, resource configuration, financial services, and resource utilization costs.

Billing/Accounting Service—This service provides request processing, billing and invoicing, accounts receivable, accounts payable, funds management, collections, general ledger, cost accounting, and management reporting.

Fault Management Service—This service provides support for the detection, isolation, diagnosis, and recovery from a fault condition in a managed object in the ECS network.

Performance Management Service—This service provides the capability to monitor ECS network element performance, generate performance alerts when minimum performance thresholds are exceeded, and provide long term trend analysis reports to management.

Mode Management Service—This service involves the monitoring and control of system resources for support of concurrent Operations, Testing, and Training activities on a non-interfering basis.

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Security Management Service—This service provides for the detection of security events, the management of the security databases within ECS, and the protection of ECS resources and user information.

Report Generation Service—This service provides the capability to output various operational and administrative reports.  Specifically, Report Generation provides standard and ad-hoc reports and queries on all or portions of the management and related data distributed in the network.

The Common Management Service software component within the MCI provides the underlying common management services that form the foundation for the integration of management applications.  These common management services comprise the management framework upon which system management applications are built and promotes interoperability among management applications.

The Enterprise Management Service provides system wide management support for ECS.  For Release B the management configuration consists of the Tivoli Management Platform with the Tivoli components: Admin, Enterprise Console, Courier, Sentry and Log  Event Adapters.

The User Comment Survey Service provides a server which manages the user comment surveys which are made available to any user who wishes to provide comments and suggestions about the ECS system.

The Backup and Restore Service provides a suite of integrated tools for backup, recovery archive and retrieval. Legatto's Networker software for network storage management is the COTS product selected to provide this service.

The Relation Database Management System (RDBMS) software component of the MCI supports the efficient, structured organization of management services information collected from the network.

### 4.11.2.2.2  Management Agents (MACI) CSCI

Management Agent services monitor and control ECS network resources consisting of physical devices, system software and applications.  Management Agents reside on each manageable resource to perform the tasks of detecting events and issuing event traps and for retrieving and setting management information for the system manager. SNMP Agents use the Simple Network Management Protocol (SNMP) to retrieve and set managed objects defined in a Management

Information Base (MIB) and to detect and send event traps.  Extendible Agents provide the functions of the SNMP Agent with additional capabilities to control and monitor a network host and its applications.  They provide pre-defined capabilities such as the startup, shutdown and configuration of host applications. Proxy Agents are intermediate agents that provide an SNMP interface between the system manager and software or hardware that is non SNMP compliant.

### 4.11.2.2.3  Management Logistics (MLCI) CSCI

The MLCI provides the following services:

Configuration Management Service—This service maintains physical and software configuration. It maintains information such as device location and device configuration status.

Software Distribution Service—This service provides for the means to distribute software, database information, and software documentation for users of the ECS products and services. These distributed products must be tracked to ensure delivery and maintain an up-to-date baseline.

License Management Service—License Management activities involve a legally-dictated control mechanism. With numerous COTS software applications being used to support system operations, the issue of software license administration is an important part of operations and configuration control. The license-manager includes capabilities that ensure compliance with the existing licensing agreements for all software products. The software which performs the function of license management provides for a reallocation of software licenses throughout the system as required. This helps to ensure that COTS software is available when and where it is most needed.

Inventory Management Service—This service provides a system-wide inventory of all hardware being utilized as well as scientific and system software contained within ECS.

Logistic Management Service—This service monitors the spares inventory, replenishes spare parts, and monitors the consumable inventory within its element.

Maintenance Management Service—This service tracks all activities involved with corrective and preventive maintenance, including maintaining schedules and records.

Training Management Service—This service supports training and certification programs for ECS personnel. In addition, Training Management provides support for the development of schedules for training courses, on-the-job training, and training materials as well as evaluating the effectiveness of the training programs.

### 4.11.3  Requirements Table

The following table lists all MSS L4 requirements for Releases Ir1, A & B in numerical order together with their RbR parent requirements.

| L4 ID | Rel | L4 Text | RbR ID | RbR Text |
|-------|-----|---------|--------|----------|
| C-HRD-11000 | A | The Enterprise Monitoring Server shall be physically and functionally identical to the Enterprise Communications Server in supporting the CSMS requirements. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-HRD-11005 | A | The Enterprise Monitoring Server shall share data with the Local System Management Server in supporting the CSMS requirements. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-HRD-11010 | A | The Enterprise Monitoring Server shall preserve DAAC autonomy of operations. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-HRD-11015 | A | The Enterprise Monitoring Server shall host the MSS software configuration items to create, with the Enterprise Communications Server and Management Workstations, an enterprise monitoring and coordination center for the ECS. | EOSD5020#A | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-HRD-11100 | A | The Enterprise Monitoring Server processor shall include a dedicated terminal to be used as a local systems operations console. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| C-HRD-11105 | A | The Enterprise Monitoring Server processor shall be capable of expansion with additional quantities and types of peripherals. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-HRD-11110 | A | The Enterprise Monitoring Server processor shall be upgradeable/replaceable within the same product family without major software modification or replacement of any peripheral or attached component. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |

## System Management Subsystem L4 to RbR traceability

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| C-HRD-11115 | IR1 | The Enterprise Monitoring Server processor shall have the capability to support a POSIX compliant IEEE 1003.1 operating system (UNIX). | EOSD5020#A | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| | | | EOSD5020#Ir1 | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-HRD-11120 | A | The Enterprise Monitoring Server processor terminal shall be compatible with the Management Workstation display device. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| C-HRD-11300 | IR1 | The Enterprise Monitoring Server data storage shall be compatible with POSIX compliant operating systems from several vendors. | EOSD5020#Ir1 | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| | | | EOSD5020#A | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-HRD-11310 | A | The Enterprise Monitoring Server data storage shall be compatible with the Local System Management Server short-term data storage. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| C-HRD-11315 | A | The Enterprise Monitoring Server data storage shall support RAID level-5: striping with interleaved parity. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

## System Management Subsystem L4 to RbR traceability

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| C-HRD-11320 | A | The Enterprise Monitoring Server data storage shall have the following hot swappable components:<br>a.    Disks<br>b.    Power Supplies<br>c.    Fans<br>d.    Disk-array controllers | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| | | | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-11325 | A | The Enterprise Monitoring Server data storage shall be cross-strapped with the Enterprise Communications Server data storage in supporting the CSMS requirements. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| | | | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-11335 | A | The Enterprise Monitoring Server data storage shall be capable of archiving data to the ECS data server archive for data archive. | EOSD0030#A | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-HRD-11345 | A | The Enterprise Monitoring Server data archive shall adhere to ECS data server archival requirements for data storage and retrieval. | EOSD0030#A | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |

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| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
|---|---|---|---|---|
| C-HRD-11505 | A | The Enterprise Monitoring Server peripheral disk drives shall be capable of retrieving data stored from both the enterprise monitoring server data storage and data archive. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-HRD-11530 | A | The Enterprise Monitoring Server peripherals shall support at least one tape drive. | EOSD0030#A | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-HRD-11535 | A | The Enterprise Monitoring Server peripheral tape drive shall have the following characteristics:<br>a.　　4mm Digital Audio Tape format<br>b.　　Accept industry standard magnetic 4mm DAT (i.e. DDS-90)<br>c.　　Data transfer rate of 200KB/sec | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD0030#A | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |

## System Management Subsystem L4 to RbR traceability

| C-HRD-11540 | A | The Enterprise Monitoring Server tape drives shall be upgradeable/replaceable within the same product family. | EOSD0030#A | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |
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| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-HRD-11565 | A | The Enterprise Monitoring Server peripherals shall support at least one CD-ROM drive. | SMC-2320#A | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| C-HRD-11570 | A | The Enterprise Monitoring Server peripheral CD-ROM drive shall have the following characteristic:<br>a.        Accept 600MB Compact Disk | SMC-2320#A | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| C-HRD-11575 | A | The Enterprise Monitoring Server peripheral CD-ROM drives shall be upgradeable/replaceable within the same product family. | SMC-2320#A | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| C-HRD-12000 | A | The Local Management Server shall be physically and functionally identical to the Local Communications Server in supporting the CSMS requirements. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-HRD-12005 | A | The Local Management Server shall share data with the Enterprise Monitoring Server in supporting the CSMS requirements. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-HRD-12010 | A | The Local Management Server shall manage only the local DAAC and preserve other DAAC autonomy of operations. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |

| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
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| C-HRD-12015 | A | The Local Management Server shall host the MSS software configuration items to create, with the Local Communications Server and Management Workstations, a local system management center for each ECS DAAC. | EOSD5020#A | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-HRD-12100 | A | The Local Management Server processor shall include a dedicated terminal to be used as a local systems operations console. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-HRD-12105 | A | The Local Management Server processor shall be capable of expansion with additional quantities and types of peripherals. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-HRD-12110 | A | The Local Management Server processor shall be upgradeable/replaceable within the same product family without major software modification or replacement of any peripheral or attached component. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |

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## System Management Subsystem L4 to RbR traceability

| C-HRD-12115 | IR1 | The Local Management Server processor shall have the capability to support a POSIX compliant IEEE 1003.1 operating system (UNIX). | EOSD5020#A | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
|---|---|---|---|---|
| | | | EOSD5020#Ir1 | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-HRD-12120 | A | The Local Management Server processor terminal shall be compatible with the Management Workstation display device. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| C-HRD-12300 | IR1 | The Local Management Server data storage shall be compatible with POSIX compliant operating systems from several vendors. | EOSD5020#Ir1 | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| | | | EOSD5020#A | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-HRD-12310 | A | The Local Management Server data storage shall be compatible with the Enterprise Monitoring Server intermediate-term data storage. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-HRD-12315 | A | The Local Management Server data storage shall support RAID level-5: striping with interleaved parity. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| | | | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-12320 | A | The Local Management Server data storage shall have the following hot swappable components: a.      Disks b.      Power Supplies c.      Fans d.      Disk-array controllers | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |

| | | | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
|---|---|---|---|---|
| C-HRD-12325 | A | The Local Management Server data storage shall be cross-strapped with the Local Communications Server short-term data storage in supporting the CSMS requirements. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| | | | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-12335 | A | The Local Management Server data storage shall be capable of archiving data to the ECS Data Server archive for data archive. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| | | | EOSD0030#A | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |
| C-HRD-12345 | A | The Local Management Server data archive shall adhere to ECS Data Server archival requirements for data storage and retrieval. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| | | | EOSD0030#A | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |
| C-HRD-12505 | A | The Local Management Server peripheral disk drives shall be capable of retrieving data stored from both the Local Management server data storage data archive. | | |

## System Management Subsystem L4 to RbR traceability

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| C-HRD-12530 | A | The Local Management Server peripherals shall support at least one tape drive. | EOSD0030#A | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |
| C-HRD-12535 | A | The Local Management Server peripheral tape drive shall have the following characteristics:<br>a.      4mm Digital Audio Tape format<br>b.      Accept industry standard magnetic 4mm DAT (i.e. DDS-90)<br>c.      Data transfer rate of 200KB/sec | EOSD0030#A | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-HRD-12540 | A | The Local Management Server tape drives shall be upgradeable/replaceable within the same product family. | EOSD0030#A | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |
| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-HRD-12565 | A | The Local Management Server peripherals shall support at least one CD-ROM drive. | SMC-2320#A | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| C-HRD-12570 | A | The Local Management Server peripheral CD-ROM drive shall have the following characteristic:<br>a.      Accept 600MB Compact Disk | SMC-2320#A | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |

## System Management Subsystem L4 to RbR traceability

| C-HRD-12575 | A | The Local Management Server peripheral CD-ROM drives shall be upgradeable/replaceable within the same product family. | SMC-2320#A | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
|---|---|---|---|---|
| C-HRD-13000 | A | All Management Workstations and processors shall be capable of operating simultaneously and independently of other workstations and management/communications servers. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-HRD-13100 | A | At a minimum, each processor shall have the capability to support a POSIX compliant IEEE 1003.1 operating system (UNIX). | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-HRD-13105 | A | Each Management Workstation shall provide one QWERTY keyboard which shall:<br>a.     Be detachable and cabled for movement on a desk-top style workstation area<br>b.     Provide a minimum of 12 programmable function keys | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

| C-HRD-13110 | A | Each Management Workstation shall provide one color text and graphics display device which shall:<br>a. Display the complete ASCII character set<br>b. Provide a minimum of 1024 pixel x 864 lines resolution display<br>c. Display a minimum of 16 colors<br>d. Display pages 24 lines by 80 characters wide<br>e. Display a minimum of four screen display pages<br>f. Display pages readable from any location along the width of the workstation and up to a distance of 6 feet from the screen<br>g. Provide a minimum of 19 inches diagonal non-glare screen<br>h. Provide RGB video output for hard copy<br>I. Feature an integral swivel/tilt base<br>j. Provide brightness, contrast and power controls within easy reach.<br>k. Be physically relocatable within the operations center | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| --- | --- | --- | --- | --- |
| C-HRD-13115 | A | The Management Workstation shall provide one cursor pointing device (mouse). | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-HRD-13120 | A | The Management Workstation shall be upgradeable/replaceable within the same product family. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

# System Management Subsystem L4 to RbR traceability

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| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-HRD-13300 | A | The Management Workstation data storage shall be capable of retrieving data from the data storage function of both the Enterprise Monitoring Server and the Local Management Server. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-HRD-13505 | A | All Management Workstation disk drives serving a specific function (e.g. local management, enterprise monitoring) shall be identical and will have equal capacity. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| | | | EOSD4036#A | The  operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-13900 | A | Each Printer shall be physically and functionally identical in supporting the CSMS printing requirements. | EOSD4036#A | The  operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-16000 | A | The Enterprise Monitoring Server shall be capable of 100 percent growth in the processing speed specified in Appendix A of the current version of 304-CD-003 without modifications or upgrades to software. | EOSD4030#A | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical  services. |
| | | | SMC-0300#A | The SMC shall be designed to accommodate 100 percent growth in processing speed without requiring modifications or upgrades to existing applications software. |
| C-HRD-16005 | A | The Enterprise Monitoring Server shall be capable of 100 percent growth in the storage capacity specified in Appendix A of the current version of 304-CD-003 without modifications or upgrades to software. | SMC-0310#A | The SMC shall be designed to accommodate 100 percent growth in storage capacity without requiring modifications or upgrades to existing applications software. |
| | | | EOSD4030#A | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical  services. |

| C-HRD-16010 | A | The Local Management Server shall be capable of 100 percent growth in the processing speed specified in Appendix A of the current version of 304-CD-003 without modifications or upgrades to software. | SMC-0300#A | The SMC shall be designed to accommodate 100 percent growth in processing speed without requiring modifications or upgrades to existing applications software. |
|---|---|---|---|---|
| | | | EOSD4030#A | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-HRD-16015 | A | The Local Management Server shall be capable of 100 percent growth in the storage capacity specified in Appendix A of the current version of 304-CD-003 without modifications or upgrades to software. | SMC-0310#A | The SMC shall be designed to accommodate 100 percent growth in storage capacity without requiring modifications or upgrades to existing applications software. |
| | | | EOSD4030#A | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-HRD-16020 | A | The Enterprise Monitoring Server shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-003. | EOSD4030#A | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-HRD-16025 | A | The Local Management Server shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-003 for all DAAC configurations. | EOSD4030#A | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-HRD-16030 | A | The Management Workstation shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-003. | EOSD4030#A | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-HRD-17000 | A | The MSS-MHCI hardware selection criteria shall meet overall ECS security policies and system requirements. | EOSD2200#A | Selection criteria meeting overall ECS security policies and system requirements shall be applied when selecting hardware. |

## System Management Subsystem L4 to RbR traceability

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| C-HRD-18000 | IR1 | The MSS-MHCI Enterprise Monitoring Server shall maintain one backup of all software and key data items in a separate physical location. | EOSD3200#A | A minimum of one backup which is maintained in a separate physical location (i.e., different building) shall be maintained for ECS software and key data items (including security audit trails and logs). |
| | | | EOSD3200#Ir1 | A minimum of one backup which is maintained in a separate physical location (i.e., different building) shall be maintained for ECS software. |
| C-HRD-18005 | IR1 | The MSS-MHCI Local Management Server shall maintain one backup of all software and key data items in a separate physical location. | EOSD3200#Ir1 | A minimum of one backup which is maintained in a separate physical location (i.e., different building) shall be maintained for ECS software. |
| | | | EOSD3200#A | A minimum of one backup which is maintained in a separate physical location (i.e., different building) shall be maintained for ECS software and key data items (including security audit trails and logs). |
| C-HRD-18010 | A | The MSS-MHCI functional string between the Enterprise Monitoring Server and the Local Management Server at the SMC shall be configured to support the SMC function of Gathering and Disseminating System Management Information's Availability requirement of 0.998 and a Mean Down Time of < 20 minutes during times of staffed operation. | EOSD4030#A | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-HRD-42005 | A | The GSFC LSM in the R-A timeframe shall provide a Local Communications Server configured with:<br>a.      Two Fixed Disks<br>b.      One Tape Drive<br>c.      One CD-ROM Drive<br>d.      Storage cross-strapped with Local Management Server | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-42010 | A | The GSFC LSM in the R-A timeframe shall provide one Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-42015 | A | The GSFC LSM in the R-A timeframe shall provide two (2) Management Workstations, which can perform any GSFC LSM function. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

## System Management Subsystem L4 to RbR traceability

| C-HRD-42020 | A | The GSFC LSM in the R-A timeframe shall provide 1 system printer. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
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| C-HRD-42500 | A | The GSFC infrastructure in the R-A timeframe shall provide one GSFC LAN. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-42700 | A | The GSFC EMC in the R-A timeframe shall provide an enterprise monitoring server, enterprise communications server, four (4) Management Workstations, one (1) printer, and bulletin board server transferred from the IR-1 EDF. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-42705 | A | The GSFC EMC in the R-A timeframe shall provide, via the ECS data server, a Enterprise Monitoring Server long-term data storage capability. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-43000 | A | The EOC LSM in the R-A timeframe shall provide a Local Management Server configured with:<br>a. Two Fixed Disks<br>b. One Tape Drive<br>c. One CD-ROM Drive<br>d. Storage cross-strapped with Local Communications Server | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-43005 | A | The EOC LSM in the R-A timeframe shall provide a Local Communications Server configured with:<br>a. Two Fixed Disks<br>b. One Tape Drive<br>c. One CD-ROM Drive<br>d. Storage cross-strapped with Local Management Server | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-43010 | A | The EOC LSM in the R-A timeframe shall provide one Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-43015 | A | The EOC LSM in the R-A timeframe shall provide two (2) Management Workstations, which can perform any EOC LSM function. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

## System Management Subsystem L4 to RbR traceability

| C-HRD-43020 | A | The EOC LSM in the R-A timeframe shall provide 1 system printer. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
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| C-HRD-43500 | A | The EOC infrastructure in the R-A timeframe shall provide one EOC LAN. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-44005 | A | The MSFC LSM in the R-A timeframe shall provide a Local Communications Server configured with:<br>a. Two Fixed Disks<br>b. One Tape Drive<br>c. One CD-ROM Drive<br>d. Storage cross-strapped with Local Management Server | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-44010 | A | The MSFC LSM in the R-A timeframe shall provide one Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-44015 | A | The MSFC LSM in the R-A timeframe shall provide two (2) Management Workstations, which can perform any MSFC LSM function. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-44020 | A | The MSFC LSM in the R-A timeframe shall provide 1 system printer. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-44500 | A | The MSFC infrastructure in the R-A timeframe shall provide one MSFC LAN. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-45005 | A | The LaRC LSM in the R-A timeframe shall provide a Local Communications Server configured with:<br>a. Two Fixed Disks<br>b. One Tape Drive<br>c. One CD-ROM Drive<br>d. Storage cross-strapped with Local Management Server | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-45010 | A | The LaRC LSM in the R-A timeframe shall provide one Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

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| C-HRD-45015 | A | The LaRC LSM in the R-A timeframe shall provide two (2) Management Workstations, which can perform any LaRC LSM function. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
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| C-HRD-45020 | A | The LaRC LSM in the R-A timeframe shall provide 1 system printer. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-45500 | A | The LaRC infrastructure in the R-A timeframe shall provide one LaRC LAN. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-46005 | A | The EDC LSM in the R-A timeframe shall provide a Local Communications Server configured with:<br>a. Two Fixed Disks<br>b. One Tape Drive<br>c. One CD-ROM Drive<br>d. Storage cross-strapped with Local Management Server | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-46010 | A | The EDC LSM in the R-A timeframe shall provide one Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-46015 | A | The EDC LSM in the R-A timeframe shall provide two (2) Management Workstations, which can perform any EDC LSM function. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-46020 | A | The EDC LSM in the R-A timeframe shall provide 1 system printer. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-HRD-46500 | A | The EDC infrastructure in the R-A timeframe shall provide one EDC LAN. | EOSD4036#A | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-00010 | A | The MSS services at the SMC shall be configured to support the SMC function of Gathering and Disseminating System Management Information's Availability requirement of .998 and a mean down time of 20 minutes or less for critical services during times of staffed operation. | EOSD4030#A | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |

## System Management Subsystem L4 to RbR traceability

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| | | | EOSD3500#B | The ECS RMA Program shall adhere to GSFC 420-05-03, Performance Assurance Requirements for the EOSDIS. |
| | | | EOSD4030#B | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-MSS-00020 | A | The MSS services shall have no single point of failure for functions associated with network databases and configuration data. | EOSD4035#A | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| | | | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-00030 | A | The MSS services shall be extensible in its design to provide capability for growth and enhancement. | EOSD5100#B | ECS shall enable evolution of ECS to be a federated unit within GCDIS, e.g. GCDIS data centers should not have to negotiate different interfaces with each DAAC. |
| | | | ESN-0240#B | The ESN shall be extensible in its design to provide capability for growth and enhancement. |
| | | | ESN-0240#A | The ESN shall be extensible in its design to provide capability for growth and enhancement. |
| C-MSS-00200 | A | The MSS services shall allocate 10% of development resources for IV&V activity. | EOSD1140#A | ECS shall allocate 10% of development resources (the ECS Sustaining Engineering Facility at GSFC), including processing, storage, and networks, for the IV&V activity. |
| | | | EOSD1140#B | ECS shall allocate 10% of development resources (the ECS Sustaining Engineering Facility at GSFC), including processing, storage, and networks, for the IV&V activity. |
| C-MSS-00500 | B | The MSS shall have the capability to send EOS Long Term Science Plans to ASTER GDS. | EOSD1480#B | ECS shall receive from the resident EOS Project Scientist the IWGs Long Term Science Plan (LTSP) and updates as required. |
| | | | ASTER-0040#B | ECS shall have the capability to send and ASTER GDS shall have the capability to receive EOS Long Term Science Plans. |
| C-MSS-00510 | B | The MSS shall have the capability to send EOS Long Term Instrument Plans to ASTER GDS. | ASTER-0045#B | ECS shall have the capability to send and ASTER GDS shall have the capability to receive EOS Long Term Instrument Plans. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-00520 | B | The MSS shall have the capability to send schedule adjudication data to ASTER GDS. | | |
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| C-MSS-00530 | B | The MSS shall have the capability to receive schedule adjudication data from ASTER GDS. | | |
| C-MSS-00540 | B | To the maximum extent, the MSS Human Machine Interface (HMI) shall be compatible with the ECS User Interface Style Guide (Version 5.1). | IMS-1380#B | The IMS shall provide the capability to integrate the element toolkits with a common user interface. |
| C-MSS-02000 | B | The MSS-MHW CI Enterprise Monitoring Server shall be physically and functionally identical to the Enterprise Communications Server in supporting the CSMS requirements. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02010 | B | The MSS-MHW CI Enterprise Monitoring Server shall share data with the Local System Management Server in supporting the CSMS requirements. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02020 | B | The MSS-MHW CI Enterprise Monitoring Server shall preserve DAAC autonomy of operations. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02030 | B | The MSS-MHW CI Enterprise Monitoring Server shall host the MSS software configuration items to create, with the Enterprise Communications Server and Management Workstations, an enterprise monitoring and coordination center for the ECS. | EOSD5020#B | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-MSS-02050 | A | The MSS-MHCI shall be configured to support the SDPS function of receiving science data's Availability requirement of .999 and Mean Down Time requirement of 2 hours or less during times of staffed operation. | EOSD3990#B | The SDPS function of Data Order Submission Across DAACs shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |
| | | | EOSD3990#A | The SDPS function of Data Order Submission Across DAACs shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-02052 | A | The MSS-MHCI shall be configured to support the SDPS function of Archiving and Distributing Data's Availability requirement of .98 and Mean Down Time requirement of < 2 hours during times of staffed operation. | EOSD3920#B | The SDPS function of archiving and distributing data shall have an operational availability of 0.98 at a minimum (.999999 design goal) and an MDT of two (2) hours or less (9 minutes design goal). |
| | | | EOSD3920#A | The SDPS function of archiving and distributing data shall have an operational availability of 0.98 at a minimum (.999999 design goal) and an MDT of two (2) hours or less (9 minutes design goal). |
| C-MSS-02054 | A | The MSS-MHCI shall be configured to support the SDPS function of User Interfaces to Client, Interoperability, Data Server, and Data Management (IMS) services at Individual DAAC Site's availability requirement of .993 and a mean down time requirement of < 2 hours during times of staffed operations. | EOSD3930#B | The user interfaces to Information Management System (IMS) services at individual Distributed Active Archive Center (DAAC) sites shall have an operational availability of 0.993 at a minimum (.9997 design goal) and an MDT of two (2) hours or less (1.6 hour design goal). |
| | | | EOSD3930#A | The user interfaces to Information Management System (IMS) services at individual Distributed Active Archive Center (DAAC) sites shall have an operational availability of 0.993 at a minimum (.9997 design goal) and an MDT of two (2) hours or less (1.6 hour design goal). |
| C-MSS-02056 | A | The MSS-MHCI shall be configured to support the SDPS function of information searches on the ECS directory's availability requirement of .993 and a mean down time requirement of < 2 hours during times of staffed operations. | EOSD3940#B | The SDPS function of Information Searches on the ECS Directory shall have an operational availability of 0.993 at a minimum (.9997 design goal) and an MDT of two (2) hours or less (1.4 hour design goal). |
| | | | EOSD3940#A | The SDPS function of Information Searches on the ECS Directory shall have an operational availability of 0.993 at a minimum (.9997 design goal) and an MDT of two (2) hours or less (1.4 hour design goal). |
| C-MSS-02058 | A | The MSS-MHCI shall be configured to support the SDPS function of Metadata Ingest and Update's availability requirement of .96 and a mean down time requirement of < 4 hours during times of staffed operations. | EOSD3960#B | The SDPS function of Metadata Ingest and Update shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD3960#A | The SDPS function of Metadata Ingest and Update shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |
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| C-MSS-02060 | A | The MSS-MHCI shall be configured to support the SDPS function of Information Searches On Local Holding's availability requirement of .96 and mean down time requirement of < 4 hours during times of staffed operations. | EOSD3970#B | The SDPS function of Information Searches on Local Holdings shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |
| | | | EOSD3970#A | The SDPS function of Information Searches on Local Holdings shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |
| C-MSS-02062 | A | The MSS-MHCI shall be configured to support the SDPS function of Local Data Order Submission's availability requirement of .96 and a mean down time requirement of < 4 hours during times of staffed operations. | EOSD3980#B | The SDPS function of Local Data Order Submission shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |
| | | | EOSD3980#A | The SDPS function of Local Data Order Submission shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |
| C-MSS-02064 | A | The MSS-MHCI shall be configured to support the SDPS function of Data Order Submission Across DAAC's availability requirement of .96 and a mean down time requirement of < 4 hours during times of staffed operations. | EOSD3990#B | The SDPS function of Data Order Submission Across DAACs shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |
| | | | EOSD3990#A | The SDPS function of Data Order Submission Across DAACs shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |

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## System Management Subsystem L4 to RbR traceability

| C-MSS-02066 | A | The MSS-MHCI shall be configured to support the SDPS function of Client, Interoperability, Data Management and Data Server (IMS) Data Base Management and Maintenance Interface's availability requirement of .96 and a mean down time requirement of < 4 hours during times of staffed operations. | EOSD4000#B | The SDPS function of IMS Data Base Management and Maintenance Interface shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |
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| | | | EOSD4000#A | The SDPS function of IMS Data Base Management and Maintenance Interface shall have an operational availability of 0.96 at a minimum (.999999 design goal) and an MDT of four (4) hours or less (6 minutes design goal). |
| C-MSS-02068 | A | The MSS-MHCI elements and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| C-MSS-02070 | A | The maximum down time of the MSS-MHCI shall not exceed twice the required MDT in 99 percent of failure occurrences. | EOSD3630#B | The maximum down time shall not exceed twice the required MDT in 99 percent of failure occurrences. |
| | | | EOSD3630#A | The maximum down time shall not exceed twice the required MDT in 99 percent of failure occurrences. |
| C-MSS-02100 | B | The MSS-MHW CI Enterprise Monitoring Server processor shall include a dedicated terminal to be used as a local systems operations console. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-02110 | B | The MSS-MHW CI Enterprise Monitoring Server processor shall be capable of expansion with additional quantities and types of peripherals. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02120 | B | The MSS-MHW CI Enterprise Monitoring Server processor shall be upgradeable/replaceable within the same product family without major software modification or replacement of any peripheral or attached component. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-02130 | B | The MSS-MHW CI Enterprise Monitoring Server processor shall have the capability to support a POSIX compliant IEEE 1003.1 operating system (UNIX). | EOSD5020#B | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-MSS-02140 | B | The MSS-MHW CI Enterprise Monitoring Server processor terminal shall be compatible with the Management Workstation display device. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| C-MSS-02200 | B | The MSS-MHW CI Enterprise Monitoring Server data storage shall be compatible with POSIX compliant operating systems from several vendors. | EOSD5020#B | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-MSS-02210 | B | The MSS-MHW CI Enterprise Monitoring Server data storage shall be compatible with the Local System Management Server short-term data storage. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| C-MSS-02220 | B | The MSS-MHW CI Enterprise Monitoring Server data storage shall support RAID level-5: striping with interleaved parity. | EOSD4036#B | The  operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-02230 | B | The MSS-MHW CI Enterprise Monitoring Server data storage shall have the following hot swappable components: a. Disks b. Power Supplies c. Fans d. Disk-array controllers | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02240 | B | The MSS-MHW CI Enterprise Monitoring Server data storage shall be cross-strapped with the Enterprise Communications Server data storage in supporting the CSMS requirements. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02250 | B | The MSS-MHW CI Enterprise Monitoring Server data storage shall be capable of archiving data to the ECS data server archive for data archive. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| C-MSS-02260 | B | The MSS-MHW CI Enterprise Monitoring Server data archive shall adhere to ECS data server archival requirements for data storage and retrieval. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| C-MSS-02300 | B | The MSS-MHW CI Enterprise Monitoring Server peripheral disk drives shall be capable of retrieving data stored from both the enterprise monitoring server data storage and data archive. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |

## System Management Subsystem L4 to RbR traceability

| C-MSS-02400 | B | The MSS-MHW CI Enterprise Monitoring Server peripherals shall support at least one tape drive. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
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| C-MSS-02410 | B | The MSS-MHW CI Enterprise Monitoring Server peripheral tape drive shall have the following characteristics: a. 4mm Digital Audio Tape format b. Accept industry standard magnetic 4mm DAT (i.e. DDS-90) | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-02420 | B | The MSS-MHW CI Enterprise Monitoring Server peripherals shall support at least one tape drive. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-02430 | B | The MSS-MHW CI Enterprise Monitoring Server tape drives shall be upgradeable/replaceable within the same product family. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-02500 | B | The MSS-MHW CI Enterprise Monitoring Server peripherals shall support at least one CD-ROM drive. | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| C-MSS-02510 | B | The MSS-MHW CI Enterprise Monitoring Server peripheral CD-ROM drive shall have the following characteristic: a. Accept 600MB Compact Disk | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |

## System Management Subsystem L4 to RbR traceability

| C-MSS-02520 | B | The MSS-MHW CI Enterprise Monitoring Server peripheral CD-ROM drives shall be upgradeable/replaceable within the same product family. | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
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| C-MSS-02600 | B | The MSS-MHW CI Local Management Server shall be physically and functionally identical to the Local Communications Server in supporting the CSMS requirements. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02610 | B | The MSS-MHW CI Local Management Server shall share data with the Enterprise Monitoring Server in supporting the CSMS requirements. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02620 | B | The MSS-MHW CI Local Management Server shall manage only the local DAAC and preserve other DAAC autonomy of operations. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02630 | B | The MSS-MHW CI Local Management Server shall host the MSS software configuration items to create, with the Local Communications Server and Management Workstations, a local system management center for each ECS DAAC. | EOSD5020#B | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-MSS-02700 | B | The MSS-MHW CI Local Management Server processor shall include a dedicated terminal to be used as a local systems operations console. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-02710 | B | The MSS-MHW CI Local Management Server processor shall be capable of expansion with additional quantities and types of peripherals. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |

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| C-MSS-02720 | B | The MSS-MHW CI Local Management Server processor shall be upgradeable/replaceable within the same product family without major software modification or replacement of any peripheral or attached component. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02730 | B | The MSS-MHW CI Local Management Server processor shall have the capability to support a POSIX compliant IEEE 1003.1 operating system (UNIX). | EOSD5020#B | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-MSS-02740 | B | The MSS-MHW CI Local Management Server processor terminal shall be compatible with the Management Workstation display device. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| C-MSS-02800 | B | The MSS-MHW CI Local Management Server data storage shall be compatible with POSIX compliant operating systems from several vendors. | EOSD5020#B | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-MSS-02810 | B | The MSS-MHW CI Local Management Server data storage shall be compatible with the Enterprise Monitoring Server intermediate-term data storage. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02820 | B | The MSS-MHW CI Local Management Server data storage shall support RAID level-5: striping with interleaved parity. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02830 | B | The MSS-MHW CI Local Management Server data storage shall have the following hot swappable components: a. Disks b. Power Supplies c. Fans d. Disk-array controllers | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-02840 | B | The MSS-MHW CI Local Management Server data storage shall be cross-strapped with the Local Communications Server short-term data storage in supporting the CSMS requirements. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-02850 | B | The MSS-MHW CI Local Management Server data storage shall be capable of archiving data to the ECS Data Server archive for data archive. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
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| C-MSS-02860 | B | The MSS-MHW CI Local Management Server data archive shall adhere to ECS Data Server archival requirements for data storage and retrieval. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-02900 | B | The MSS-MHW CI Local Management Server peripheral disk drives shall be capable of retrieving data stored from both the Local Management server data storage data archive. | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| C-MSS-03000 | B | The MSS-MHW CI Local Management Server peripherals shall support at least one tape drive. | EOSD0030#B | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |
| C-MSS-03010 | B | The MSS-MHW CI Local Management Server peripheral tape drive shall have the following characteristics: a. 4mm Digital Audio Tape format b. Accept industry standard magnetic 4mm DAT (i.e. DDS-90) | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-03020 | B | The MSS-MHW CI Local Management Server peripheral tape drive shall have a data transfer rate of 200KB/sec. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03030 | B | The MSS-MHW CI Local Management Server tape drives shall be upgradeable/replaceable within the same product family. | EOSD0030#B | ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products. |
| C-MSS-03100 | B | The MSS-MHW CI Local Management Server peripherals shall support at least one CD-ROM drive. | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| C-MSS-03110 | B | The MSS-MHW CI Local Management Server peripheral CD-ROM drive shall have the following characteristic: a. Accept 600MB Compact Disk | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| C-MSS-03120 | B | The MSS-MHW CI Local Management Server peripheral CD-ROM drives shall be upgradeable/replaceable within the same product family. | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| C-MSS-03200 | B | All MSS-MHW CI Management Workstations and processors shall be capable of operating simultaneously and independently of other workstations and management/communications servers. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-03300 | B | At a minimum, each MSS-MHW CI processor shall have the capability to support a POSIX compliant IEEE 1003.1 operating system (UNIX). | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03310 | B | Each MSS-MHW CI Management Workstation shall provide one QWERTY keyboard. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03320 | B | Each Management Workstation keyboard  shall be detachable and cabled for movement on a desk-top style workstation area. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03330 | B | Each Management Workstation keyboard shall provide a minimum of 12 programmable function keys. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

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## System Management Subsystem L4 to RbR traceability

| C-MSS-03340 | B | Each MSS-MHW CI Management Workstation shall provide one color text and graphics display device. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
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| C-MSS-03350 | B | The MSS-MHW CI display driver device shall display the complete ASCII character set. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03360 | B | The MSS-MHW CI display driver device shall provide a minimum of 1024 pixel x 864 lines resolution display. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03370 | B | The MSS-MHW CI display driver device shall display a minimum of 16 colors. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-03380 | B | The MSS-MHW CI display driver device shall display pages 24 lines by 80 characters wide. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03390 | B | The MSS-MHW CI display driver device shall display a minimum of four screen display pages. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03400 | B | The MSS-MHW CI display driver device shall display pages readable from any location along the width of the workstation and up to a distance of 6 feet from the screen. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03410 | B | The MSS-MHW CI display driver device shall provide a minimum of 19 inches diagonal non-glare screen. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

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## System Management Subsystem L4 to RbR traceability

| C-MSS-03420 | B | The MSS-MHW CI display driver device shall provide RGB video output for hard copy. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
|---|---|---|---|---|
| C-MSS-03430 | B | The MSS-MHW CI display driver device shall provide feature an integral swivel/tilt base. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03440 | B | The MSS-MHW CI display driver device shall provide brightness, contrast and power controls within easy reach. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03450 | B | The MSS-MHW CI display driver device shall display the complete ASCII character set. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

## System Management Subsystem L4 to RbR traceability

| C-MSS-03460 | B | The MSS-MHW CI Management Workstation shall provide one cursor pointing device (mouse). | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
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| C-MSS-03470 | B | The MSS-MHW CI Management Workstation shall be upgradeable/replaceable within the same product family. | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-03500 | B | The MSS-MHW CI Management Workstation data storage shall be capable of retrieving data from the data storage function of both the Enterprise Monitoring Server and the Local Management Server. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-03600 | B | All MSS-MHW CI Management Workstation disk drives serving a specific function (e.g. local management, enterprise monitoring) shall be identical and will have equal capacity. | EOSD4035#B | The ESN shall have no single point of failure for functions associated with network databases and configuration data. |
| C-MSS-03700 | B | Each MSS-MHW CI Printer shall be physically and functionally identical in supporting the CSMS printing requirements. | EOSD4036#B | The  operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-03710 | A | Each printer shall have a print density of at least 300 dpi. | EOSD4036#A | The  operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| | | | EOSD4036#B | The  operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-03800 | B | The MSS-MHW CI Enterprise Monitoring Server shall be capable of 100 percent growth in the processing speed specified in Appendix A of the current version of 304-CD-005 without modifications or upgrades to software. | EOSD4030#B | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
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| C-MSS-03810 | B | The MSS-MHW CI Enterprise Monitoring Server shall be capable of 100 percent growth in the storage capacity specified in Appendix A of the current version of 304-CD-005 without modifications or upgrades to software. | EOSD4030#B | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-MSS-03820 | B | The MSS-MHW CI Local Management Server shall be capable of 100 percent growth in the processing speed specified in Appendix A of the current version of 304-CD-005 without modifications or upgrades to software. | EOSD4030#B | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-MSS-03830 | B | The MSS-MHW CI Local Management Server shall be capable of 100 percent growth in the storage capacity specified in Appendix A of the current version of 304-CD-005 without modifications or upgrades to software. | EOSD4030#B | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-MSS-03840 | B | The MSS-MHW CI Enterprise Monitoring Server shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-005. | EOSD4030#B | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-MSS-03850 | B | The MSS-MHW CI Local Management Server shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-005 for all DAAC configurations. | EOSD4030#B | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-MSS-03860 | B | The MSS-MHW CI Management Workstation shall be capable of meeting the capacity and performance characteristics of Appendix A of the current version of 304-CD-005. | EOSD4030#B | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-MSS-03900 | B | The MSS-MHW CI hardware selection criteria shall meet overall ECS security policies and system requirements. | EOSD2200#B | Selection criteria meeting overall ECS security policies and system requirements shall be applied when selecting hardware. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-04000 | B | The MSS-MHW CI Enterprise Monitoring Server shall maintain one backup of all software and key data items in a separate physical location. | EOSD3200#B | A minimum of one backup which is maintained in a separate physical location (i.e., different building) shall be maintained for ECS software and key data items (including security audit trails and logs). |
| C-MSS-04010 | B | The MSS-MHW CI Local Management Server shall maintain one backup of all software and key data items in a separate physical location. | EOSD3200#B | A minimum of one backup which is maintained in a separate physical location (i.e., different building) shall be maintained for ECS software and key data items (including security audit trails and logs). |
| C-MSS-04020 | B | The MSS-MHW CI functional string between the Enterprise Monitoring Server and the Local Management Server shall provide a function Ao (operational availability) of 0.998 and an MDT of 20 minutes. | EOSD4030#B | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-MSS-04030 | B | The MSS-MHW CI functional string between the Local Management Server and ECS managed objects shall provide a function Ao of 0.998 and an MDT of 20 minutes. | EOSD4030#B | The SMC function of gathering and disseminating system management information shall have an operational availability of .998 at a minimum (.999998 design goal) and an MDT of 20 minutes or less (5 minutes design goal), for critical services. |
| C-MSS-05200 | B | The GSFC LSM shall provide a MSS-MHW CI Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05210 | B | The GSFC LSM MSS-MHW CI Local Management Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05220 | B | The GSFC LSM shall provide a MSS-MHW CI Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05230 | B | The GSFC LSM MSS-MHW CI Local Communications Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05240 | B | The GSFC LSM MSS-MHW CI Local Communications Server shall provide storage that is cross-strapped with the Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05250 | B | The GSFC LSM shall provide one MSS-MHW CI Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

| C-MSS-05260 | B | The GSFC LSM shall provide two (2) MSS-MHW CI Management Workstations, which can perform any GSFC LSM function. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
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| C-MSS-05270 | B | The GSFC LSM shall provide a MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05280 | B | The GSFC LSM shall provide a MSS-MHW CI dot-matrix printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05290 | B | The GSFC infrastructure shall provide a GSFC MSS-MHW CI LAN. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05300 | B | The GSFC EMC shall provide an MSS-MHW CI enterprise monitoring server, enterprise communications server, four (4) Management Workstations, one (1) printer, and bulletin board server transferred from the IR-1 EDF. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05310 | B | The GSFC EMC shall provide, via the ECS data server, MSS-MHW CI Enterprise Monitoring Server long-term data storage capability. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05320 | B | The GSFC EMC shall provide a MSS-MHW CI dot-matrix printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05400 | B | The EOC LSM shall provide a MSS-MHW CI Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05410 | B | The EOC LSM MSS-MHW CI Local Management Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05420 | B | The EOC LSM MSS-MHW CI Local Management Servershall provide storage that is cross-strapped with the Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05430 | B | The EOC LSM shall provide a MSS-MHW CI Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

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## System Management Subsystem L4 to RbR traceability

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| C-MSS-05440 | B | The EOC LSM MSS-MHW CI Local Communications Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05450 | B | The EOC LSM MSS-MHW CI Local Communications Server shall provide storage that is cross-strapped with the Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05460 | B | The EOC LSM shall provide one MSS-MHW CI Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05470 | B | The EOC LSM shall provide two (2) MSS-MHW CI Management Workstations, which can perform any EOC LSM function. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05480 | B | The EOC LSM shall provide a MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05490 | B | The EOC LSM shall provide a MSS-MHW CI dot-matrix printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05500 | B | The EOC infrastructure shall provide one EOC MSS-MHW CI LAN. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05600 | B | The MSFC LSM shall provide a MSS-MHW CI Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05610 | B | The MSFC LSM MSS-MHW CI Local Management Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05620 | B | The MSFC LSM shall provide a MSS-MHW CI Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05630 | B | The MSFC LSM MSS-MHW CI Local Communications Servershall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

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| C-MSS-05640 | B | The MSFC LSM MSS-MHW CI Local Communications Servershall provide storage that is cross-strapped with the Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
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| C-MSS-05650 | B | The MSFC LSM shall provide a MSS-MHW CI Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05660 | B | The MSFC LSM shall provide two (2) MSS-MHW CI Management Workstations, which can perform any MSFC LSM function. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05670 | B | The MSFC LSM shall provide a MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05680 | B | The MSFC LSM shall provide a MSS-MHW CI dot-matrix printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05690 | B | The MSFC infrastructure shall provide one MSFC MSS-MHW CI LAN. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05800 | B | The LaRC LSM shall provide a MSS-MHW CI Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05810 | B | The LaRC LSM MSS-MHW CI Local Management Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05820 | B | The LaRC LSM shall provide a MSS-MHW CI Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05830 | B | The LaRC LSM MSS-MHW CI Local Communications Servershall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05840 | B | The LaRC LSM MSS-MHW CI Local Communications Server shall provide storage that is cross-strapped with the Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

| C-MSS-05850 | B | The LaRC LSM shall provide one MSS-MHW CI Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
|---|---|---|---|---|
| C-MSS-05860 | B | The LaRC LSM shall provide two (2) MSS-MHW CI Management Workstations, which can perform any LaRC LSM function. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05870 | B | The LaRC LSM shall provide 1 MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05880 | B | The LaRC LSM shall provide a MSS-MHW CI dot-matrix printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-05890 | B | The LaRC infrastructure shall provide a LaRC MSS-MHW CI LAN. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06000 | B | The EDC LSM shall provide a MSS-MHW CI Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06010 | B | The EDC LSM MSS-MHW CI Local Management Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06020 | B | The EDC LSM shall provide a MSS-MHW CI Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06030 | B | The EDC LSM MSS-MHW CI Local Communications Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06040 | B | The EDC LSM MSS-MHW CI Local Communications Server shall provide storage that is cross-strapped with the Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06050 | B | The EDC LSM shall provide a MSS-MHW CI Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

| C-MSS-06060 | B | The EDC LSM shall provide two (2) MSS-MHW CI Management Workstations, which can perform any EDC LSM function. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
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| C-MSS-06070 | B | The EDC LSM shall provide a MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06080 | B | The EDC LSM shall provide a MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06090 | B | The EDC infrastructure shall provide an EDC MSS-MHW CI LAN. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06200 | B | The JPL LSM shall provide a MSS-MHW CI Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06210 | B | The JPL LSM MSS-MHW CI Local Management Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06220 | B | The JPL LSM shall provide a MSS-MHW CI Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06230 | B | The JPL LSM MSS-MHW CI Local Communications Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06240 | B | The JPL LSM MSS-MHW CI Local Communications Server shall provide storage that is cross-strapped with the Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06250 | B | The JPL LSM shall provide a MSS-MHW CI Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06260 | B | The JPL LSM shall provide two (2) MSS-MHW CI Management Workstations, which can perform any EOC LSM function. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

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| C-MSS-06270 | B | The JPL LSM shall provide a MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
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| C-MSS-06280 | B | The JPL LSM shall provide a MSS-MHW CI dot-matrix printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06290 | B | The JPL infrastructure shall provide a JPL MSS-MHW CI LAN. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06400 | B | The SMC LSM shall provide a MSS-MHW CI Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06410 | B | The SMC LSM MSS-MHW CI Local Management Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06420 | B | The SMC LSM shall provide a MSS-MHW CI Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06430 | B | The SMC LSM MSS-MHW CI Local Communications Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06440 | B | The SMC LSM MSS-MHW CI Local Communications Server shall provide storage that is cross-strapped with the Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06450 | B | The SMC LSM shall provide a MSS-MHW CI Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06460 | B | The SMC LSM shall provide two (2) MSS-MHW CI Management Workstations, which can perform any EOC LSM function. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06470 | B | The SMC LSM shall provide a MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06480 | B | The SMC LSM shall provide a MSS-MHW CI dot-matrix printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

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| C-MSS-06490 | B | The SMC EMC shall provide an MSS-MHW CI enterprise monitoring server, enterprise communications server, accounting and billing server, four (4) Management Workstations, printer, dot-matrix printer, and bulletin board server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
|---|---|---|---|---|
| C-MSS-06500 | B | The SMC EMC shall provide, via the ECS data server, a MSS-MHW CI Enterprise Monitoring Server long-term data storage capability. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06510 | B | The SMC EMC shall provide, via the ECS data server, an MSS-MHW CI accounting and billing server long-term data storage capability. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06600 | B | The NSIDC LSM shall provide a MSS-MHW CI Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06610 | B | The NSIDC LSM MSS-MHW CI Local Management Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06620 | B | The NSIDC LSM shall provide a MSS-MHW CI Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06630 | B | The NSIDC LSM MSS-MHW CI Local Communications Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06640 | B | The NSIDC LSM MSS-MHW CI Local Communications Server shall provide storage that is cross-strapped with the Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06650 | B | The NSIDC LSM shall provide one MSS-MHW CI local management and local communications server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06660 | B | The NSIDC LSM shall provide two (2) MSS-MHW CI Management Workstations, which can perform any EOC LSM function. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06670 | B | The NSIDC LSM shall provide a MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

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| C-MSS-06680 | B | The NSIDC LSM shall provide a MSS-MHW CI dot-matrix printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06690 | B | The NSIDC infrastructure shall provide a NSIDC MSS-MHW CI LAN. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06800 | B | The ASF LSM shall provide a MSS-MHW CI Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06810 | B | The ASF LSM MSS-MHW CI Local Management Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06820 | B | The ASF LSM shall provide a MSS-MHW CI Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06830 | B | The ASF LSM MSS-MHW CI Local Communications Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06840 | B | The ASF LSM MSS-MHW CI Local Communications Server shall provide storage that is cross-strapped with the Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06850 | B | The ASF LSM shall provide a MSS-MHW CI Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06860 | B | The ASF LSM shall provide two (2) MSS-MHW CI Management Workstations, which can perform any LSM function. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06870 | B | The ASF LSM shall provide a MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06880 | B | The ASF LSM shall provide a MSS-MHW CI dot-matrix printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-06890 | B | The ASF infrastructure shall provide a ASF MSS-MHW CI LAN. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

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| C-MSS-07000 | B | The ORNL LSM shall provide a MSS-MHW CI Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
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| C-MSS-07010 | B | The ORNL LSM MSS-MHW CI Local Management Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-07020 | B | The ORNL LSM shall provide a MSS-MHW CI Local Communications Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-07030 | B | The ORNL LSM MSS-MHW CI Local Communications Server shall be configured with fixed disk, tape drive, and CD-ROM drive storage devices. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-07040 | B | The ORNL LSM MSS-MHW CI Local Communications Server shall provide storage that is cross-strapped with the Local Management Server. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-07050 | B | The ORNL LSM shall provide a MSS-MHW CI Data Storage Unit supporting RAID level 5 cross strapped between the local management and local communications servers. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-07060 | B | The ORNL LSM shall provide two (2) MSS-MHW CI Management Workstations, which can perform any EOC LSM function. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-07070 | B | The ORNL LSM shall provide a MSS-MHW CI system printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-07080 | B | The ORNL LSM shall provide a MSS-MHW CI dot-matrix printer. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |
| C-MSS-07090 | B | The ORNL infrastructure shall provide an ORNL MSS-MHW CI LAN. | EOSD4036#B | The operational availability of individual ESN segments shall be consistent with the specified operational availability of the supported ECS functions. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-10010 | A | The MSS shall interface with the Ecom systems to exchange data identified in Table 5.1-1 as specified in the ECS/Ecom IRD. | EOSD1502#A | ECS elements shall use Ecom for data communications for the following types of data:<br>a. Production data sets (Level 0 data)<br>b. Expedited data sets<br>c. Real-time data (for health and safety)<br>d. Command data<br>e. Data requested from back-up archive<br>f. TDRSS schedule requests<br>g. Data exchange with the FDF |
| C-MSS-10020 | A | The MSS shall interface with the Version 0 system to exchange data identified in Table 5.1-1 as specified in the ECS/V0 IRD, 194-219-SE1-004. | EOSD1695#A | The ECS shall provide 2-way interoperability with the V0 system. |
| C-MSS-10030 | A | The MSS shall interface with the Science Computing Facility (SCF) to exchange data identified in Table 5.1-1 as specified in ECS/SCF IRD, 194-219-SE1-005. | EOSD5000#A | ECS shall enable the addition of other data providers, e.g. DAACs, SCFs, ADCs, ODCs, which may:<br>- provide heterogeneous services, i.e. services in support of EOS which may be less than or different than ECS services.<br>- be connected with varying topologies<br>- have variable levels of reliability or operational availability. |
| C-MSS-10040 | A | The MSS shall interface with the NASA Institutional Support System (NISS) to exchange data identified in Table 5.1-1 as specified in ECS/NISS IRD, 194-219-SE1-020. | EOSD1502#A | ECS elements shall use Ecom for data communications for the following types of data:<br>a. Production data sets (Level 0 data)<br>b. Expedited data sets<br>c. Real-time data (for health and safety)<br>d. Command data<br>e. Data requested from back-up archive<br>f. TDRSS schedule requests<br>g. Data exchange with the FDF |
| C-MSS-10050 | A | The MSS shall interface with the Affiliated Data Centers (ADC) to exchange data identified in Table 5.1-1 as specified in ECS/ADC IRD, 219-CD-006. | NOAA0700#A | The ECS shall have the capability to send and the NMC shall have the capability to receive requests for ancillary data to support ECS standard product generation. |
| | | | NOAA0120#A | The SAAs shall have the capability to send and the ECS shall have the capability to receive User Authentication Requests. |
| | | | NOAA0140#A | The SAAs shall have the capability to send and the ECS shall have the capability to receive User Authentication Results. |

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| | | | NOAA0600#A | The SAAs shall have the capability to send and the ECS shall have the capability to receive Network Management information. |
| | | | NOAA0610#A | The ECS shall have the capability to send and the SAAs shall have the capability to receive Network Management information. |
| C-MSS-10060 | A | The MSS shall interface with the Tropical Rainfall Measuring Mission (TRMM) to exchange data identified in Table 5.1-1 as specified in ECS/TRMM IRD, 194-219-SE1-018. | | |
| C-MSS-10070 | A | The MSS shall interface with the Landsat 7 System to exchange data identified in Table 5.1-1 as specified in ECS/Landsat 7 IRD, 219-CD-003. | | |
| C-MSS-10080 | IR1 | The MSS shall interface with the NASA Science Internet (NSI) to exchange data identified in Table 5.1-1 as specified in ECS/NSI IRD, 194-219-SE1-001. | ESN-1180#A | The ESN shall interoperate with NSI to provide user access to ECS. |
| | | | ESN-1180#Ir1 | The ESN shall interoperate with NSI to provide user access to ECS. |
| C-MSS-10090 | A | The MSS shall interface with the Program Support Communications Network (PSCN) to exchange data identified in Table 5.1-1 as specified in ECS/PSCN IRD, 193-219-SE1-008. | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| C-MSS-10100 | A | The MSS shall interface with the EDOS to exchange data identified in Table 5.1-1 as specified in EDOS/EGS IRD, 560-EDOS-0211. | SMC-5325#A | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses and privileges. |
| | | | EOSD1600#A | The ECS elements that interface with EDOS elements shall exchange element level status data with EDOS. |
| C-MSS-10110 | A | The MSS shall interface with the International Partners (IP) for Data Interoperability to exchange data identified in Table 5.1-1 as specified in ECS/IP IRD, 194-219-SE1-015. | EOSD1770#A | ECS elements shall exchange the following types of data at a minimum with the IPs: a. Instrument command loads b. Science data c. Planning and scheduling data d. Directories e. Product Orders |

## *System Management Subsystem L4 to RbR traceability*

| C-MSS-10200 | A | The MSS shall interface with the SDPS subsystems to exchange the data items in Table 5.1-2 as specified in the ECS internal ICDs, 313-DV3-003. | DADS0901#A | The DADS element shall collect the management data used to support the following system management functions:<br>a. Fault Management<br>b. Configuration Management<br>d. Accountability Management<br>e. Performance Management<br>f. Security Management<br>g. Scheduling Management<br>h. Distribution and Ingest Management |
| --- | --- | --- | --- | --- |
| | | | PGS-0310#A | The PGS element shall collect the management data used to support the following system management functions:<br>a. Fault Management<br>b. Configuration Management<br>c. Accounting Management<br>d. Accountability Management<br>e. Performance Management<br>f. Security Management<br>g. Scheduling Management. |
| | | | IMS-1620#A | The IMS element shall collect the management data used to support the following system management functions:<br>a. Fault Management<br>b. Configuration Management<br>d. Accountability Management<br>e. Performance Management<br>f. Security Management<br>g. Scheduling Management. |
| C-MSS-10300 | A | The MSS shall interface with the FOS subsystems to exchange the data items in Table 5.1-3 as specified in the ECS internal ICDs, 313-DV3-003. | ICC-6210#A | The ICC shall provide the SMC and the EOC with access to ICC reports. |
| | | | ICC-0040#A | The ICC shall receive the LTSP and LTIP from the SMC. |
| | | | EOC-8380#A | The EOC shall provide the SMC with access to EOC reports, including at a minimum the following:<br>a. Plans and schedules |
| | | | EOC-0030#A | The EOC shall receive the LTSP and LTIP from the SMC. |

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| C-MSS-10400 | A | The MSS at a site shall interface with the MSS subsystems at the SMC and other sites to exchange management data items in Table 5.1-4. | NI-0430#A | ECS shall have the capability to receive notification of faults in the NOLAN network that may affect the quality of NOLAN services between ECS and its users. |
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| | | | NI-0480#A | ECS shall have the capability to send to NOLAN notifications of security breaches at ECS facilities that could affect NOLAN and other EOSDIS sites. |
| | | | NI-0450#A | ECS shall have the capability to receive periodic summary information about faults that may have affected the quality of NOLAN services between ECS and its users. |
| | | | NI-0460#A | ECS shall have the capability to receive periodic information regarding NOLAN network performance and link utilization. |
| | | | NI-0440#A | ECS shall have the capability to receive information regarding fault status and estimated time to repair or resolve NOLAN faults that may affect the quality of NOLAN services between ECS and its users. |
| | | | NI-0470#A | ECS shall have the capability to receive notifications of security breaches at NOLAN sites or within the NOLAN network that could potentially affect ECS sites. |
| C-MSS-10410 | IR1 | The MSS shall interface with the CSS subsystems to exchange the data items in Table 5.1-5 as specified in  the ECS internal ICDs, 313-DV3-003. | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |

## System Management Subsystem L4 to RbR traceability

| C-MSS-10420 | A | The MSS shall interface with the ISS subsystems to exchange the data items in Table 5.1-6 as specified in the ECS internal ICDs, 313-DV3-003. | ESN-0650#A | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
|---|---|---|---|---|
| C-MSS-12005 | IR1 | The MSS Management User Interface (MUI) Service shall be compatible with the ECS management framework. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |

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| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
|---|---|---|---|---|
| | | | ESN-0640#Ir1 | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | ESN-0210#A | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products, to assure the successful operation of ESN. |
| | | | ESN-0210#B | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products to assure the successful operation of ESN. |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
|---|---|---|---|---|
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0640#A | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-12010 | IR1 | The MSS Management User Interface (MUI) Service shall provide a graphical user interface that is OSF/MOTIF compliant | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
|---|---|---|---|---|
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0800#A | The ESN shall be capable of displaying  the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0070#Ir1 | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0800#Ir1 | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
|---|---|---|---|---|
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0800#B | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| C-MSS-12020 | IR1 | The MSS MUI Service shall have the capability to respond to keyboard and mouse input devices | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

## System Management Subsystem L4 to RbR traceability

| C-MSS-12030 | IR1 | The MSS MUI Service shall provide a capability for the M&O Staff to add/delete a symbol and to modify a symbol's shape, color and position | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
|---|---|---|---|---|
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| C-MSS-12040 | IR1 | The MSS MUI Service shall provide a capability for an application to add/delete a symbol and to modify a symbol's shape, color and position | ESN-0800#B | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |

| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
|---|---|---|---|---|
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0800#A | The ESN shall be capable of displaying  the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| C-MSS-12050 | IR1 | The MSS MUI Service shall provide a capability for the M&O Staff to add, delete, and modify text strings | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

## System Management Subsystem L4 to RbR traceability

| C-MSS-12060 | IR1 | The MSS MUI Service shall provide a capability for an application to add, delete, and modify text strings | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
|---|---|---|---|---|
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| C-MSS-12070 | IR1 | The MSS MUI Service shall have the capability to provide options and methods to the M&O Staff for screen configuration changes (color, symbol placement, etc) and for retaining the changes from session to session | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
|---|---|---|---|---|
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| C-MSS-12080 | IR1 | The MSS MUI Service shall provide a capability for applications to alert the M&O Staff | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |

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## *System Management Subsystem L4 to RbR traceability*

| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
|---|---|---|---|---|
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective  actions. |
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective  actions. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0900#Ir1 | Errors and events to be detected shall include at least:<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#Ir1 | The ESN shall have error reporting and event logging. |
| | | | ESN-0830#Ir1 | The ESN  shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |

| | | | ESN-0910#Ir1 | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
|---|---|---|---|---|
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| C-MSS-12090 | IR1 | The MSS MUI Service shall provide a capability for applications to establish a dialog session with the M&O Staff | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

## System Management Subsystem L4 to RbR traceability

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| | | | ESN-0910#Ir1 | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0900#Ir1 | Errors and events to be detected shall include at least:<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |

## System Management Subsystem L4 to RbR traceability

| C-MSS-12100 | IR1 | The MSS MUI Service shall provide a capability for the M&O Staff to load and unload vendor or ECS defined MIB. | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
|---|---|---|---|---|
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| C-MSS-12110 | IR1 | The MSS MUI Service shall provide a capability for applications to load and unload vendor or ECS defined MIB. | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

## System Management Subsystem L4 to RbR traceability

| C-MSS-12120 | IR1 | The MSS MUI Service shall provide a capability for the operator to browse MIB values. | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
|---|---|---|---|---|
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0910#Ir1 | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| C-MSS-12130 | IR1 | The MSS MUI Service shall provide the capability for the M&O Staff to register and unregister managed objects. | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0640#Ir1 | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
|---|---|---|---|---|
| | | | ESN-0640#A | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| C-MSS-12140 | IR1 | The MSS MUI Service shall provide the capability for an application to register and unregister managed objects. | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

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| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
|---|---|---|---|---|
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| C-MSS-12170 | A | The MSS MUI Service shall provide the capability to register and unregister management applications. | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| C-MSS-12180 | IR1 | The MSS MUI Service shall provide the capability for an application to display on-line help windows | ESN-0250#B | The ESN shall provide a help service to assist users with communication questions and problems. |

| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
|---|---|---|---|---|
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0250#A | The ESN shall provide a help service to assist users with communication questions and problems. |
| C-MSS-14010 | IR1 | The MSS Maps/Collection Service shall retain the status of managed objects and their relationship to symbols that comprise a graphical representation of the physical network topology. | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
|---|---|---|---|---|
| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0800#A | The ESN shall be capable of displaying  the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0800#Ir1 | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

## *System Management Subsystem L4 to RbR traceability*

| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
|---|---|---|---|---|
| | | | ESN-0800#B | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |

| | | | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services |
|---|---|---|---|---|
| C-MSS-14020 | IR1 | The MSS Map/Collection Service shall provide a capability to define maps and objects. | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0800#A | The ESN shall be capable of displaying  the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0800#Ir1 | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | ESN-0800#B | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| C-MSS-14030 | IR1 | The MSS Map/Collection Service shall provide a capability to define a hierarchical relationship between maps and sub-maps (i.e., a graphical hierarchical tree) | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |

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## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0800#A | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | ESN-0800#Ir1 | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services |
|---|---|---|---|---|
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0740#B | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0800#B | The ESN shall be capable of displaying  the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
|---|---|---|---|---|
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| C-MSS-14040 | IR1 | The MSS Map/Collection Service shall propagate events associated with objects up the hierarchical tree | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0800#B | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services |
| | | | ESN-0840#Ir1 | The ESN shall have error reporting and event logging. |
| | | | ESN-0830#Ir1 | The ESN  shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0800#Ir1 | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting  status. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
|---|---|---|---|---|
| | | | ESN-0800#A | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |

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## System Management Subsystem L4 to RbR traceability

| C-MSS-16005 | IR1 | The ECS management protocol shall be the SNMP standard as specified in RFC 1157. | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
|---|---|---|---|---|
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0650#A | The ESN shall perform the following network management functions for each protocol  stack implemented in  any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0640#A | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0740#Ir1 | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0650#Ir1 | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
|---|---|---|---|---|
| | | | ESN-0640#Ir1 | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0070#Ir1 | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

| | | | | |
|---|---|---|---|---|
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0740#B | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol  stack implemented in  any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0640#B | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| C-MSS-16010 | A | MSS Monitor/Control Service shall communicate via ECS management protocol with the Management Agent Service in test or operational mode. | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |

# System Management Subsystem L4 to RbR traceability

| | | | ESN-0070#A | |
|---|---|---|---|---|
| | | | | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0010#A | |
| | | | | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | EOSD0500#A | |
| | | | | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD4100#B | |
| | | | | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0070#B | |
| | | | | The ESN shall support the elements data flow requirements identified in this specification. |

## System Management Subsystem L4 to RbR traceability

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|---|---|---|---|---|
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| C-MSS-16020 | IR1 | The MSS Monitor/Control Service shall communicate via ECS management protocol  with the MSS Management Agent Service to request management data on a managed object. | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |

| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-1060#A | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
|---|---|---|---|---|
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0650#A | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |

| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum: <br> a. collect information describing the state of the network subsystem and its communications resources, <br> b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected, <br> c. store the configuration information collected, and <br> d. display the configuration information |
|---|---|---|---|---|
| | | | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3410#B | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum: <br> a. Operational status <br> b. Performance of a particular resource <br> c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
| | | | SMC-3355#B | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility: <br> a. set, view, and change alert threshold values <br> b. enable and disable alert notifications (alarms) within a system <br> c. enable and disable event reports within a system <br> d. manage error and event logging files |
| | | | ESN-1060#B | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3355#A | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| | | | SMC-3410#A | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |

## *System Management Subsystem L4 to RbR traceability*

| | | | | |
|---|---|---|---|---|
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-0650#Ir1 | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#Ir1 | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
|---|---|---|---|---|
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN  shall have the capability to detect and report communications related errors and events  both locally and at the ESN network management facility. |
| | | | ESN-0640#B | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |

| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
|---|---|---|---|---|
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services |
| C-MSS-16030 | IR1 | The MSS Monitor/Control Service shall be able to communicate via ECS management protocol with the MSS Management Agent Service to send ECS management set messages to configure and control the processing performed by the ECS management agent. | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services |

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0740#B | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0780#B | The network elements including the Internet  interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including  the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance  statistics |
| | | | ESN-0640#B | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0840#Ir1 | The ESN shall have error reporting and event logging. |
| | | | ESN-0830#Ir1 | The ESN  shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-1060#Ir1 | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |

| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
|---|---|---|---|---|
| | | | ESN-0070#Ir1 | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | SMC-3375#Ir1 | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail |
| | | | SMC-3370#Ir1 | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-1060#B | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | SMC-3370#A | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |

*System Management Subsystem L4 to RbR traceability*

| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
|---|---|---|---|---|
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | SMC-3370#B | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |

| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
|---|---|---|---|---|
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0780#A | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |

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## System Management Subsystem L4 to RbR traceability

| | | | ESN-0620#A | |
|---|---|---|---|---|
| | | | | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | |
| | | | | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1090#A | |
| | | | | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1060#A | |
| | | | | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#A | |
| | | | | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility: a. set, view, and change alert threshold values b. enable and disable alert notifications (alarms) within a system c. enable and disable event reports within a system d. manage error and event logging files |
| | | | ESN-0900#A | |
| | | | | Errors and events to be detected shall include at least: a. communications software version or configuration errors b. communications hardware errors c. protocol errors d. performance degradation conditions e. telecommunications errors and failures |
| | | | ESN-0810#A | |
| | | | | ESN shall provide the following fault management functions at a minimum: a. detect the occurrence of faults, b. control the collection of fault information, and c. diagnose the probable cause of a detected fault |
| | | | ESN-0010#A | |
| | | | | ESN shall provide the following standard services: a. Data Transfer and Management Services b. Electronic Messaging Service c. Remote Terminal Service d. Process to Process Communication Service e. Directory and User Access Control Service f. Network Management Service g. Network Security and Access Control Service h. Internetwork Interface Services i. Bulletin Board Service |

## *System Management Subsystem L4 to RbR traceability*

| C-MSS-16040 | IR1 | The MSS Monitor/Control Service shall communicate via ECS management protocol with the MSS Management Agent Service to receive ECS management traps/events. | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
|---|---|---|---|---|
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | EOSD0500#Ir1 | ECS shall perform the following major functions:<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing |
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
|---|---|---|---|---|
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for: <br> a. Capturing, by an application, of management data <br> b. Exchanging management data between a managed application and its management agent <br> c. Exchanging management data between a management agent and the LSM <br> d. Performing analyses and generating reports using management data |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum: <br> a. collect information describing the state of the network subsystem and its communications resources, <br> b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected, <br> c. store the configuration information collected, and <br> d. display the configuration information |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum: <br> a. detect the occurrence of  faults, <br> b. control the collection of fault information, and <br> c. diagnose the probable cause of a detected fault |
| | | | ESN-0010#A | ESN shall provide the following standard services: <br> a. Data Transfer and Management Services <br> b. Electronic Messaging Service <br> c. Remote Terminal Service <br> d. Process to Process Communication Service <br> e. Directory and User Access Control Service <br> f. Network Management Service <br> g. Network Security and Access Control Service <br> h. Internetwork  Interface Services <br> i. Bulletin Board Service |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1060#A | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |

## *System Management Subsystem L4 to RbR traceability*

| | | | | |
|---|---|---|---|---|
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0900#lr1 | Errors and events to be detected shall include at least:<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#lr1 | The ESN shall have error reporting and event logging. |
| | | | ESN-0830#lr1 | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-1060#lr1 | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#lr1 | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0790#lr1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-0620#lr1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#lr1 | The ESN shall support the elements data flow requirements identified in this specification. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |

| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
|---|---|---|---|---|
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1060#B | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services |

| C-MSS-16050 | IR1 | The MSS Monitor/Control Service shall allow customized M&O staff-event notifications and automatic actions. | SMC-3370#A | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
|---|---|---|---|---|
| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3370#B | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |

*System Management Subsystem L4 to RbR traceability*

| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
|---|---|---|---|---|
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-1060#A | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0830#Ir1 | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-0900#Ir1 | Errors and events to be detected shall include at least:<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#Ir1 | The ESN shall have error reporting and event logging. |

## *System Management Subsystem L4 to RbR traceability*

| | | | ESN-1060#Ir1 | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
|---|---|---|---|---|
| | | | ESN-0910#Ir1 | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1060#B | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

## *System Management Subsystem L4 to RbR traceability*

| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
|---|---|---|---|---|
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |

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## *System Management Subsystem L4 to RbR traceability*

| C-MSS-16060 | IR1 | The MSS Monitor/Control Service shall allow the capability to set thresholds on managed resources that are monitored | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
|---|---|---|---|---|
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1060#A | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |

# System Management Subsystem L4 to RbR traceability

| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
|---|---|---|---|---|
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3370#B | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-1060#B | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |

## *System Management Subsystem L4 to RbR traceability*

| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
|---|---|---|---|---|
| | | | SMC-3370#A | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | SMC-3370#Ir1 | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3375#Ir1 | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail |
| | | | ESN-0830#Ir1 | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-1060#Ir1 | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-16070 | IR1 | The MSS Monitor/Control Service shall automatically report when a threshold has been exceeded by generating a ECS management event | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1060#B | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0840#lr1 | The ESN shall have error reporting and event logging. |
| | | | ESN-0830#lr1 | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0070#lr1 | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0620#lr1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-1060#lr1 | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#lr1 | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility: c. enable and disable event reports within a system d. manage error and event logging files |
| | | | ESN-0900#lr1 | Errors and events to be detected shall include at least: b. communications hardware errors c. protocol errors d. performance degradation conditions e. telecommunications errors and failures |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-1060#A | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | SMC-3370#B | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3370#Ir1 | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3390#Ir1 | The SMC shall generate alert indicators of fault or degraded conditions. |
| | | | SMC-3375#Ir1 | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail |
| | | | SMC-3370#A | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |

| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
|---|---|---|---|---|
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| C-MSS-16100 | IR1 | The MSS Monitor/Control Service shall perform the following protocol test on managed network nodes:<br>a.　　IP test<br>b.　　TCP test<br>c.　　SNMP test<br>d.　　UDP test<br>e.　　ICMP test | ESN-1010#A | The ESN shall provide, for selective use as a debugging aid, the capability to perform packet tracing of its supported protocols. |
| | | | ESN-1030#A | The ESN shall perform periodic testing of alternate communication capabilities to verify that they are operational. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0780#A | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |

| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
|---|---|---|---|---|
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1030#B | The ESN shall perform periodic testing of alternate communication capabilities to verify that they are operational. |
| | | | ESN-1010#B | The ESN shall provide, for selective use as a debugging aid, the capability to perform packet tracing of its supported protocols. |
| | | | ESN-0780#B | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| C-MSS-16110 | A | The MSS monitor/control service shall provide APIs to provide the capability for management data exchange with management applications. | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| C-MSS-18040 | A | The MSS Management Data Access Service shall maintain the integrity of the management database. | EOSD2440#B | Data base integrity including prevention of data loss and corruption shall be maintained. |
| | | | ESN-1000#B | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical. |
| | | | ESN-1000#A | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical. |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD2440#A | Data base integrity including prevention of data loss and corruption shall be maintained. |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| C-MSS-18050 | A | The MSS Management Data Access Service's shall utilize CSS Services to access/transfer management data. | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | EOSD3492#A | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1000#A | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever  practical. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0210#B | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products to assure the successful operation of ESN. |
| | | | ESN-0210#A | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products, to assure the successful operation of ESN. |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

# System Management Subsystem L4 to RbR traceability

| | | | EOSD3492#B | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
|---|---|---|---|---|
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | ESN-1000#B | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| C-MSS-18060 | A | The Management Data Access Service shall provide the capability for an application to access management data. | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1000#A | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical. |

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| | | | EOSD3492#A | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
|---|---|---|---|---|
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0210#B | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products to assure the successful operation of ESN. |
| | | | ESN-0210#A | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products, to assure the successful operation of ESN. |
| | | | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | EOSD2430#A | Data base access and manipulation shall accommodate control of user access and update of security controlled data. |
| | | | EOSD2430#B | Data base access and manipulation shall accommodate control of user access and update of security controlled data. |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1000#B | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever  practical. |
|---|---|---|---|---|
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | EOSD3492#B | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| C-MSS-18070 | A | The MSS Management Data Access Service shall provide the capability to selectively access management data. | EOSD3492#B | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | ESN-1000#B | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever  practical. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting  status. |
| | | | EOSD3492#A | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
|---|---|---|---|---|
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1000#A | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical. |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0210#B | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products to assure the successful operation of ESN. |
| | | | ESN-0210#A | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products, to assure the successful operation of ESN. |

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| C-MSS-18200 | A | The MSS Management Data Access Service shall provide the capability for an application via APIs to update fields in the management database. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| C-MSS-18220 | A | The MSS Management Data Access Service shall provide the capability for an application via APIs to alter tables and fields in the management database. | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| C-MSS-18260 | A | The MSS Management Data Access Service shall have the capability to schedule the transfer and loading log files into the management database at the site. | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |

| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
|---|---|---|---|---|
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-3410#A | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |

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## System Management Subsystem L4 to RbR traceability

| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| --- | --- | --- | --- | --- |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0210#A | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products, to assure the successful operation of ESN. |
| | | | ESN-0210#B | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products to assure the successful operation of ESN. |
| | | | SMC-3410#B | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |

| | | | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
|---|---|---|---|---|
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| C-MSS-18270 | A | The MSS Management Data Access Service shall have the capability to schedule the archiving of log files at the site. | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD3492#A | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | EOSD3492#B | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

## System Management Subsystem L4 to RbR traceability

| C-MSS-18280 | A | The MSS Management Data Access Service shall have the capability to schedule the transfer of management data at the sites to the SMC. | EOSD3492#B | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
|---|---|---|---|---|
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility: a. set, view, and change alert threshold values b. enable and disable alert notifications (alarms) within a system c. enable and disable event reports within a system d. manage error and event logging files |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | EOSD3492#A | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility: a. set, view, and change alert threshold values b. enable and disable alert notifications (alarms) within a system c. enable and disable event reports within a system d. manage error and event logging files |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |

## *System Management Subsystem L4 to RbR traceability*

| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0210#B | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products to assure the successful operation of ESN. |
| | | | ESN-0210#A | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products, to assure the successful operation of ESN. |
| | | | SMC-3410#A | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3410#B | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |

| | | | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
|---|---|---|---|---|
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| C-MSS-18330 | A | The MSS Management Data Access Service shall provide the capability for an applications to append records to a log file. | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |

## System Management Subsystem L4 to RbR traceability

| C-MSS-18340 | A | The MSS Management Data Access Service shall provide the capability for an application to selectively read a record from a log file | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0210#A | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products, to assure the successful operation of ESN. |
| | | | ESN-0210#B | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products to assure the successful operation of ESN. |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |

## System Management Subsystem L4 to RbR traceability

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|---|---|---|---|---|
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1000#A | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1000#B | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical. |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| C-MSS-18350 | A | The MSS Management Data Access Service shall provide the capability for an application to load log files into the management database at the site | EOSD3492#B | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum: <br> a. generate/collect network statistics <br> b. control collection/generation of network statistics <br> c. store system statistics and statistical histories <br> d. display the system statistics <br> e. track end-to-end transaction performance |
|---|---|---|---|---|
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0010#B | ESN shall provide the following standard services: <br> a. Data Transfer and Management Services <br> b. Electronic Messaging Service <br> c. Remote Terminal Service <br> d. Process to Process Communication Service <br> e. Directory and User Access Control Service <br> f. Network Management Service <br> g. Network Security and Access Control Service <br> h. Internetwork  Interface Services <br> i. Bulletin Board Service |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum: <br> a. generate/collect network statistics <br> b. control collection/generation of network statistics <br> c. store system statistics and statistical histories <br> d. display the system statistics <br> e. track end-to-end transaction performance |

## System Management Subsystem L4 to RbR traceability

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|---|---|---|---|---|
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | EOSD3492#A | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD1710#A | ECS elements shall exchange with  ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | EOSD1710#B | ECS elements shall exchange with  ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| C-MSS-18360 | B | The MSS Management Data Access Service shall provide the capability for the M&O staff to load log files into the management database at the site. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |

| | | | | |
|---|---|---|---|---|
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | EOSD3492#B | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| C-MSS-20010 | IR1 | The MSS Discovery Service shall discover (via network protocol) new instances of managed objects. | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services |

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0740#B | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0830#B | The ESN  shall have the capability to detect and report communications related errors and events  both locally and at the ESN network management facility. |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |

| | | | ESN-0640#B | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
|---|---|---|---|---|
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0620#lr1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0790#lr1 | The ESN shall include the following configuration management functions at a minimum: <br> a. collect information describing the state of the network subsystem and its communications  resources, <br> b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected, <br> c. store the configuration information collected, and <br> d. display the configuration information. |
| | | | ESN-0070#lr1 | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum: <br> a. collect information describing the state of the network subsystem and its communications  resources, <br> b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected, <br> c. store the configuration information collected, and <br> d. display the configuration information |
| | | | ESN-0640#A | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |

## *System Management Subsystem L4 to RbR traceability*

| | | | | |
|---|---|---|---|---|
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

## System Management Subsystem L4 to RbR traceability

| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
|---|---|---|---|---|
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
| C-MSS-20020 | IR1 | The MSS Discovery Service shall detect missing occurrences of managed objects. | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum: <br> a. collect information describing the state of the network subsystem and its communications resources, <br> b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected, <br> c. store the configuration information collected, and <br> d. display the configuration information |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum: <br> a. detect the occurrence of faults, <br> b. control the collection of fault information, and <br> c. diagnose the probable cause of a detected fault |
| | | | ESN-0010#A | ESN shall provide the following standard services: <br> a. Data Transfer and Management Services <br> b. Electronic Messaging Service <br> c. Remote Terminal Service <br> d. Process to Process Communication Service <br> e. Directory and User Access Control Service <br> f. Network Management Service <br> g. Network Security and Access Control Service <br> h. Internetwork Interface Services <br> i. Bulletin Board Service |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |

## *System Management Subsystem L4 to RbR traceability*

| | | | | |
|---|---|---|---|---|
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |

| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
|---|---|---|---|---|
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| C-MSS-20030 | IR1 | The MSS Discovery Service shall report missing occurrences of managed objects. | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0740#B | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN  shall have the capability to detect and report communications related errors and events  both locally and at the ESN network management facility. |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0640#B | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0840#Ir1 | The ESN shall have error reporting and event logging. |

## *System Management Subsystem L4 to RbR traceability*

| | | | | |
|---|---|---|---|---|
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |

## *System Management Subsystem L4 to RbR traceability*

| | | | | |
|---|---|---|---|---|
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
|---|---|---|---|---|
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| C-MSS-20040 | IR1 | The MSS Discovery Service shall update the object database after the Discovery Service receives a request to register/unregister a managed object. | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0640#B | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0740#B | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| C-MSS-36010 | IR1 | The MSS Management Agent Service shall retrieve data from ECS managed objects in test or operational mode. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

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| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | EOSD1705#B | ECS shall support interfaces to DAAC Unique components. |
| | | | ESN-0070#Ir1 | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |

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*System Management Subsystem L4 to RbR traceability*

| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
|---|---|---|---|---|
| | | | SMC-3305#Ir1 | The LSM shall monitor its elementÍs hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed |
| | | | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br><br>b). Science Algorithm Integration |
| | | | ESN-1430#B | The ESN shall provide the following security event functions:<br>a. Event detection<br>b. Event reporting<br>c. Event logging |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | EOSD1705#A | ECS shall support interfaces to DAAC Unique components. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
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| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

## System Management Subsystem L4 to RbR traceability

| | | | | |
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| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1430#A | The ESN shall provide the following security event functions:<br>a. Event detection<br>b. Event reporting<br>c. Event logging |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| C-MSS-36020 | IR1 | The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to respond to requests for managed object MIB attributes | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0800#B | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |

**System Management Subsystem L4 to RbR traceability**

| | | | | |
|---|---|---|---|---|
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0760#B | The ESN report generation function shall  provide, on an interactive  and scheduled basis, accounting,  network configuration, fault and performance management information. |
| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol  stack implemented in  any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0640#B | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | EOSD1705#B | ECS shall support interfaces to DAAC Unique components. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |

## System Management Subsystem L4 to RbR traceability

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| | | | ESN-0070#Ir1 | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-0650#Ir1 | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | SMC-3390#Ir1 | The SMC shall generate alert indicators of fault or degraded conditions. |
| | | | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br><br>b). Science Algorithm Integration |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

# System Management Subsystem L4 to RbR traceability

| | | | | |
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| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1060#B | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
|---|---|---|---|---|
| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | EOSD1705#A | ECS shall support interfaces to DAAC Unique components. |
| | | | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0650#A | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
|---|---|---|---|---|
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-1060#A | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
|---|---|---|---|---|
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0800#A | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
| C-MSS-36040 | IR1 | The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to send ECS management traps/events to the Monitor/Control Service. | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services |

## *System Management Subsystem L4 to RbR traceability*

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | EOSD1705#B | ECS shall support interfaces to DAAC Unique components. |
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |

| | | | ESN-0780#B | |
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| | | | | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| | | | ESN-0740#B | |
| | | | | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#B | |
| | | | | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#B | |
| | | | | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#B | |
| | | | | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1090#B | |
| | | | | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1070#B | |
| | | | | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-1060#B | |
| | | | | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#B | |
| | | | | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
|---|---|---|---|---|
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0830#Ir1 | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-0910#Ir1 | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

## System Management Subsystem L4 to RbR traceability

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| | | | ESN-0900#Ir1 | Errors and events to be detected shall include at least:<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#Ir1 | The ESN shall have error reporting and event logging. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br><br>b). Science Algorithm Integration |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
|---|---|---|---|---|
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | EOSD1705#A | ECS shall support interfaces to DAAC Unique components. |

## *System Management Subsystem L4 to RbR traceability*

| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
|---|---|---|---|---|
| | | | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-1060#A | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |

# System Management Subsystem L4 to RbR traceability

| | | | | |
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| | | | ESN-0780#A | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#A | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

## *System Management Subsystem L4 to RbR traceability*

| | | | | |
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| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |

| C-MSS-36042 | A | The MSS management agent service shall send ECS management traps/events to the management server using a reliable notification mechanism. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| C-MSS-36045 | A | The MSS management agent service shall send ECS management traps/events to the management server using a secure notification mechanism. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| C-MSS-36050 | IR1 | The MSS Management Agent Service shall communicate via ECS management protocol with the MSS Monitor/Control Service to receive ECS management set message from the Monitor/Control Service. | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
|---|---|---|---|---|
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
|---|---|---|---|---|
| | | | ESN-1060#A | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications  resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0640#A | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0830#A | The ESN  shall have the capability to detect and report communications related errors and events  both locally and at the ESN network management facility. |
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3370#B | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | EOSD1705#A | ECS shall support interfaces to DAAC Unique components. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |

| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| --- | --- | --- | --- | --- |
| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3370#A | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-1060#B | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br><br>b). Science Algorithm Integration |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
| | | | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | EOSD1705#B | ECS shall support interfaces to DAAC Unique components. |

| | | | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services |
|---|---|---|---|---|
| C-MSS-36052 | A | The MSS management agent service shall receive ECS management set messages from the management server using a reliable mechanism. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| C-MSS-36055 | A | The MSS management agent service shall receive ECS management set messages from the management server using a secure mechanism. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

## System Management Subsystem L4 to RbR traceability

| C-MSS-36060 | IR1 | The MSS Management Agent Service shall provide an ECS management agent that is configurable to include:<br>a. Community to respond to and set attributes<br>b. Agent location & contact person<br>c. Traps to send<br>d. Events to log & log file name | ESN-1430#B | The ESN shall provide the following security event functions:<br>a. Event detection<br>b. Event reporting<br>c. Event logging |
|---|---|---|---|---|
| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br><br>b). Science Algorithm Integration |
| | | | EOSD1705#A | ECS shall support interfaces to DAAC Unique components. |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications  resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-1060#A | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: <br> a). System Management <br> b). Science Algorithm Integration <br> c). Product Generation <br> d). Data Archive/Distribution <br> e). User Support Services <br> f). System Maintenance |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: <br> a). System Management <br> b). Science Algorithm Integration <br> c). Product Generation <br> d). Data Archive/Distribution <br> e). User Support Services <br> f). System Maintenance |
| | | | EOSD0500#A | ECS shall perform the following major functions: <br> a. EOS Mission Planning and Scheduling <br> b. EOS Mission Operations <br> c. Command and Control <br> d. Communications and Networking <br> e. Data Input <br> f. Data Processing <br> g. Data Storage <br> h. Data Distribution <br> i. Information Management <br> j. End-to-End Fault Management <br> k. System Management |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1430#A | The ESN shall provide the following security event functions:<br>a. Event detection<br>b. Event reporting<br>c. Event logging |
|---|---|---|---|---|
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0840#Ir1 | The ESN shall have error reporting and event logging. |
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-1060#Ir1 | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-0910#Ir1 | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD1705#B | ECS shall support interfaces to DAAC Unique components. |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
|---|---|---|---|---|
| | | | ESN-1060#B | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0070#Ir1 | The ESN shall support the elements data flow requirements identified in this specification. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-36070 | IR1 | The MSS Management Agent Service shall provide an ECS management agent for network devices | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | EOSD1705#B | ECS shall support interfaces to DAAC Unique components. |
| | | | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum: <br> a. generate/collect network statistics <br> b. control collection/generation of network statistics <br> c. store system statistics and statistical histories <br> d. display the system statistics <br> e. track end-to-end transaction performance |
|---|---|---|---|---|
| | | | ESN-1060#B | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility: <br> a. set, view, and change alert threshold values <br> b. enable and disable alert notifications (alarms) within a system <br> c. enable and disable event reports within a system <br> d. manage error and event logging files |
| | | | ESN-0900#B | Errors and events to be detected shall include at least: <br> a. communications software version or configuration errors <br> b. communications hardware errors <br> c. protocol errors <br> d. performance degradation conditions <br> e. telecommunications errors and failures |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#B | The ESN  shall have the capability to detect and report communications related errors and events  both locally and at the ESN network management facility. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum: <br> a. detect the occurrence of  faults, <br> b. control the collection of fault information, and <br> c. diagnose the probable cause of a detected fault |

## *System Management Subsystem L4 to RbR traceability*

| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
|---|---|---|---|---|
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-0740#Ir1 | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |

| | | | ESN-0650#Ir1 | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility: a. Network Configuration Management b. Network Fault Management c. Network Performance Management d. Network Security Management |
|---|---|---|---|---|
| | | | ESN-0840#Ir1 | The ESN shall have error reporting and event logging. |
| | | | ESN-0640#Ir1 | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0210#Ir1 | The ESN management function shall have a capability to obtain status on specific data flows to assure the successful operation of ESN. |
| | | | ESN-0070#Ir1 | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0010#Ir1 | ESN shall provide the following standard services: a. Data Transfer and Management Services b. Electronic Messaging Service c. Remote Terminal Service d. Process to Process Communication Service e. Directory and User Access Control Service f. Network Management Service g. Network Security and Access Control Service h. Internetwork Interface Services |
| | | | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: b). Science Algorithm Integration |
| | | | EOSD1705#A | ECS shall support interfaces to DAAC Unique components. |

## *System Management Subsystem L4 to RbR traceability*

| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
|---|---|---|---|---|
| | | | ESN-0210#A | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products, to assure the successful operation of ESN. |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | ESN-0210#B | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products to assure the successful operation of ESN. |
| | | | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0010#A | |
|---|---|---|---|---|
| | | | | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0810#A | |
| | | | | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0740#A | |
| | | | | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0650#A | |
| | | | | The ESN shall perform the following network management functions for each protocol  stack implemented in  any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0640#A | |
| | | | | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0620#A | |
| | | | | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | |
| | | | | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1090#A | |
| | | | | The ESN shall provide the capability to control the communications performance parameters of the network. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
|---|---|---|---|---|
| | | | ESN-1060#A | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| C-MSS-36080 | A | The MSS Management Agent Service shall provide an extensible ECS management agent for ECS Host systems | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
|---|---|---|---|---|
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |

| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
|---|---|---|---|---|
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| C-MSS-36090 | A | The MSS Management Agent Service shall provide an extensible ECS management agent for ECS applications | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
|---|---|---|---|---|
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | SDPS0010#B | The SDPS shall provide CSMS with operational, data processing, data quality and accounting status. |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SDPS0010#A | The SDPS shall provide CSMS with operational, data processing, and data quality. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |

| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
|---|---|---|---|---|
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| C-MSS-36100 | A | The MSS Management Agent Service shall provide proxy agents for ECS network devices and applications that cannot be managed via SNMP. | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |

## *System Management Subsystem L4 to RbR traceability*

| | | | ESN-0830#B | |
|---|---|---|---|---|
| | | | | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0810#B | |
| | | | | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0790#B | |
| | | | | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0740#B | |
| | | | | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0620#B | |
| | | | | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0790#A | |
| | | | | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0840#A | |
| | | | | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-1070#A | |
| | | | | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |

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## *System Management Subsystem L4 to RbR traceability*

| | | | | |
|---|---|---|---|---|
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0900#A | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
|---|---|---|---|---|
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| C-MSS-36110 | A | The MSS Management Agent Service shall provide an ECS domain manager agent to coordinate and communicate with multiple ECS management agents. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |

| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
|---|---|---|---|---|
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0070#A | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0070#B | The ESN shall support the elements data flow requirements identified in this specification. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |

## System Management Subsystem L4 to RbR traceability

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| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| C-MSS-36215 | B | The Management Agent Service shall have the capability to receive event notification from the CLS. | SMC-4311#B | The SMC shall have the capability to perform fault analysis to the level of, at a minimum:<br>a. Subsystem<br>b. Equipment |
| | | | IMS-1760#B | The IMS shall send detected hardware faults to the SMC, to include at a minimum:<br>a. IMS processors<br>b. IMS network interfaces<br>c. Storage devices |
| | | | PGS-0330#B | The PGS shall report detected processing system faults to the SMC. |

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# System Management Subsystem L4 to RbR traceability

| C-MSS-36300 | B | The Management Agent Service shall have the capability to receive processing status from the IOS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
|---|---|---|---|---|
| C-MSS-36305 | B | The Management Agent Service shall have the capability to receive current mode from the IOS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-36310 | B | The Management Agent Service shall have the capability to receive detected hardware and software fault information from the IOS. | PGS-0330#B | The PGS shall  report detected processing system faults to the SMC. |
| | | | IMS-1760#B | The IMS shall  send detected hardware faults to the SMC, to include at a minimum:<br>a. IMS processors<br>b. IMS network interfaces<br>c. Storage devices |
| C-MSS-36320 | B | The Management Agent Service shall have the capability to receive event notification from the IOS. | SMC-4311#B | The SMC shall have the capability to perform fault analysis to the level of, at a minimum:<br>a. Subsystem<br>b. Equipment |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-36325 | B | The Management Agent Service shall have the capability to receive resource utilization data from the IOS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
| C-MSS-36330 | B | The Management Agent Service shall have the capability to send life cycle commands to the IOS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| C-MSS-36335 | B | The Management Agent Service shall have the capability to send mode requests to the IOS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| C-MSS-36350 | B | The Management Agent Service shall have the capability to receive processing status from the DMS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |

# System Management Subsystem L4 to RbR traceability

| C-MSS-36355 | B | The Management Agent Service shall have the capability to receive current mode from the DMS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d.  In test mode e.  In simulation mode |
| --- | --- | --- | --- | --- |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode |
| C-MSS-36360 | B | The Management Agent Service shall have the capability to receive detected hardware and software fault information from the DMS. | PGS-0330#B | The PGS shall  report detected processing system faults to the SMC. |
| | | | IMS-1760#B | The IMS shall  send detected hardware faults to the SMC, to include at a minimum: a. IMS processors b. IMS network interfaces c. Storage devices |
| C-MSS-36365 | B | The Management Agent Service shall have the capability to receive event notification from the DMS. | SMC-4311#B | The SMC shall have the capability to perform fault analysis to the level of, at a minimum: a. Subsystem b. Equipment |
| C-MSS-36370 | B | The Management Agent Service shall have the capability to receive resource utilization data from the DMS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as: a. Data collection b. Product generation, QA and validation c. Reprocessing d. Data delivery to DAACs and to users e. Response to user requests f. Response to TOOs g. Response to field experiments h. Response to emergency situations |

| C-MSS-36375 | B | The Management Agent Service shall have the capability to send life cycle commands to the DMS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
|---|---|---|---|---|
| C-MSS-36380 | B | The Management Agent Service shall have the capability to send mode requests to the DMS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-36400 | B | The Management Agent Service shall have the capability to receive processing status from the PLS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
| C-MSS-36405 | B | The Management Agent Service shall have the capability to receive current mode from the PLS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
|  |  |  | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

# System Management Subsystem L4 to RbR traceability

| C-MSS-36410 | B | The Management Agent Service shall have the capability to receive detected hardware and software fault information from the PLS. | PGS-0330#B | The PGS shall report detected processing system faults to the SMC. |
|---|---|---|---|---|
| | | | IMS-1760#B | The IMS shall send detected hardware faults to the SMC, to include at a minimum:<br>a. IMS processors<br>b. IMS network interfaces<br>c. Storage devices |
| C-MSS-36415 | B | The Management Agent Service shall have the capability to receive event notification from the PLS. | SMC-4311#B | The SMC shall have the capability to perform fault analysis to the level of, at a minimum:<br>a. Subsystem<br>b. Equipment |
| C-MSS-36420 | B | The Management Agent Service shall have the capability to receive resource utilization data from the PLS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
| C-MSS-36435 | B | The Management Agent Service shall have the capability to send life cycle commands to the PLS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-36440 | B | The Management Agent Service shall have the capability to send mode requests to the PLS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

## System Management Subsystem L4 to RbR traceability

| C-MSS-36450 | B | The Management Agent Service shall have the capability to receive processing status from the DPS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
|---|---|---|---|---|
| C-MSS-36455 | B | The Management Agent Service shall have the capability to receive current mode from the DPS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-36460 | B | The Management Agent Service shall have the capability to receive detected hardware and software fault information from the DPS. | PGS-0330#B | The PGS shall  report detected processing system faults to the SMC. |
| | | | IMS-1760#B | The IMS shall  send detected hardware faults to the SMC, to include at a minimum:<br>a. IMS processors<br>b. IMS network interfaces<br>c. Storage devices |
| C-MSS-36465 | B | The Management Agent Service shall have the capability to receive accounting/resource accountability data from the DPS. | SMC-6380#B | The SMC shall calculate the resource unit costs associated with processing information from system input to system output. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-36470 | B | The Management Agent Service shall have the capability to receive resource utilization data from the DPS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
|---|---|---|---|---|
| C-MSS-36480 | B | The Management Agent Service shall have the capability to send life cycle commands to the DPS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-36485 | B | The Management Agent Service shall have the capability to send mode requests to the DPS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-36490 | B | The Management Agent Service shall have the capability to send resource availability information to the DPS. | SMC-1330#B | The SMC shall support and maintain the information for end-to-end data ingest, processing, reprocessing, archive, and data distribution for each product, including, at a minimum:<br>a. Product information<br>b. Product generation information<br>c. Product delivery information |

## System Management Subsystem L4 to RbR traceability

| C-MSS-36500 | B | The Management Agent Service shall have the capability to receive processing status from the INS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
|---|---|---|---|---|
| C-MSS-36505 | B | The Management Agent Service shall have the capability to receive current mode from the INS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-36510 | B | The Management Agent Service shall have the capability to receive detected hardware and software fault information from the INS. | PGS-0330#B | The PGS shall  report detected processing system faults to the SMC. |
| | | | IMS-1760#B | The IMS shall  send detected hardware faults to the SMC, to include at a minimum:<br>a. IMS processors<br>b. IMS network interfaces<br>c. Storage devices |
| C-MSS-36515 | B | The Management Agent Service shall have the capability to receive event notification from the INS. | SMC-4311#B | The SMC shall have the capability to perform fault analysis to the level of, at a minimum:<br>a. Subsystem<br>b. Equipment |

## System Management Subsystem L4 to RbR traceability

| C-MSS-36520 | B | The Management Agent Service shall have the capability to receive resource utilization data from the INS. | SMC-6380#B | The SMC shall calculate the resource unit costs associated with processing information from system input to system output. |
|---|---|---|---|---|
| | | | SMC-6385#B | The LSM shall, as needed, calculate the resource unit cost associated with processing information from element input to element output. |
| C-MSS-36540 | B | The Management Agent Service shall have the capability to send life cycle commands to the INS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-36545 | B | The Management Agent Service shall have the capability to send mode requests to the INS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-36550 | B | The Management Agent Service shall have the capability to receive processing status from the DSS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
| C-MSS-36555 | B | The Management Agent Service shall have the capability to receive current mode from the DSS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
|---|---|---|---|---|
| C-MSS-36560 | B | The Management Agent Service shall have the capability to receive detected hardware and software fault information from the DSS. | PGS-0330#B | The PGS shall report detected processing system faults to the SMC. |
| | | | IMS-1760#B | The IMS shall send detected hardware faults to the SMC, to include at a minimum:<br>a. IMS processors<br>b. IMS network interfaces<br>c. Storage devices |
| C-MSS-36565 | B | The Management Agent Service shall have the capability to receive event notification from the DSS. | SMC-4311#B | The SMC shall have the capability to perform fault analysis to the level of, at a minimum:<br>a. Subsystem<br>b. Equipment |
| C-MSS-36570 | B | The Management Agent Service shall have the capability to receive resource utilization data from the DSS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
| C-MSS-36575 | B | The Management Agent Service shall have the capability to receive status of data distribution from the DSS. | DADS0910#B | Each DADS shall notify the SMC and IMS in the event that data required in connection with an on-demand request does not arrive. |

| C-MSS-36600 | B | The Management Agent Service shall have the capability to send life cycle commands to the DSS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
|---|---|---|---|---|
| C-MSS-36605 | B | The Management Agent Service shall have the capability to send mode requests to the DSS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| C-MSS-36700 | B | The Management Agent Service shall have the capability to receive processing status from the CSS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
| C-MSS-36705 | B | The Management Agent Service shall have the capability to receive current mode from the CSS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
|  |  |  | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

## *System Management Subsystem L4 to RbR traceability*

| C-MSS-36710 | B | The Management Agent Service shall have the capability to receive detected hardware and software fault information from the CSS. | PGS-0330#B | The PGS shall  report detected processing system faults to the SMC. |
|---|---|---|---|---|
| | | | IMS-1760#B | The IMS shall  send detected hardware faults to the SMC, to include at a minimum:<br>a. IMS processors<br>b. IMS network interfaces<br>c. Storage devices |
| C-MSS-36715 | B | The Management Agent Service shall have the capability to receive event notification from the CSS. | SMC-4311#B | The SMC shall have the capability to perform fault analysis to the level of, at a minimum:<br>a. Subsystem<br>b. Equipment |
| C-MSS-36720 | B | The Management Agent Service shall have the capability to receive resource utilization data from the CSS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
| C-MSS-36750 | B | The Management Agent Service shall have the capability to send life cycle commands to the CSS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| C-MSS-36755 | B | The Management Agent Service shall have the capability to send mode requests to the CSS. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |

## System Management Subsystem L4 to RbR traceability

| C-MSS-36800 | B | The Management Agent Service shall have the capability to receive from the ASF, statistical and accounting information in ECS's standard API format. | EOSD0510#B | ECS shall be capable of being tested during all phases of its development and flight operations. |
|---|---|---|---|---|
| | | | EOSD1705#B | ECS shall support interfaces to DAAC Unique components. |
| | | | EOSD5250#B | ECS shall enable access to configuration controlled applications programming interfaces that permit development of DAAC-unique value added services and products where DAAC-unique value added services may consist of one or more of the following types of developments:<br>a. Visualization utilities and products<br>b. Data sets and inter-data set usability utilities and products<br>c. Data analysis utilities<br>d. Special subsetting capabilities (e.g. dynamic)<br>e. On-line analysis functions<br>f. New search and access techniques<br>g. Data acquisition planning and utilities<br>h. Experimental QA techniques<br>i. Non-digital data utilities and products<br>j. System Management Functions |
| C-MSS-40000 | A | The MSS configuration management application service at each site shall track the following items at the site by name and identifier:<br>a. ECS subsystems, networks, and configured system and network devices such as workstations, servers, and routers<br>b. ECS releases and site baselines<br>c. ECS hardware and software resources designated as configuration items<br>d. specifications asscoiated with configuration items<br>e. technical documentation and test materials<br>f. scientific algorithms, including software, data and test materials (DAACs only) | PGS-0900#B | The PGS shall send test products to the SCF for analysis. These shall contain the results of algorithm testing and shall contain the following information at a minimum:<br>a. Algorithm identification<br>b. Test time(s)<br>c. Processor identification<br>d. Test results |

## System Management Subsystem L4 to RbR traceability

| | | | PGS-0950#B | The PGS shall  interface to maintain configuration control of all algorithms and calibration coefficients used in operational Standard Product production.  Controlled information shall contain at a minimum:<br>a. Source code including version number and author<br>b. Benchmark test procedures, test data, and results<br>c. Date and time of operational installation<br>d. Compiler identification and version<br>e. Final algorithm documentation |
|---|---|---|---|---|
| | | | PGS-0900#A | The PGS shall send test products to the SCF for analysis.  These shall contain the results of algorithm testing and shall contain the following information at a minimum:<br>a. Algorithm identification<br>b. Test time(s)<br>c. Processor identification<br>d. Test results |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | PGS-0950#A | The PGS shall  interface to maintain configuration control of all algorithms and calibration coefficients used in operational Standard Product production.  Controlled information shall contain at a minimum:<br>a. Source code including version number and author<br>b. Benchmark test procedures, test data, and results<br>c. Date and time of operational installation<br>d. Compiler identification and version<br>e. Final algorithm documentation |
| C-MSS-40010 | A | The MSS configuration management application service at each site shall identify versions and variants of configuration controlled resources that comprise the site's operational baseline. | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-6345#A | The LSM shall, as needed, perform configuration accountability to include, at a minimum, the audit of hardware and software resources within its element. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-6345#B | The LSM shall, as needed, perform configuration accountability to include, at a minimum, the audit of hardware and software resources within its element. |
| C-MSS-40030 | A | The MSS configuration management application service at each site shall make available to the SMC records that identify the site's operational baseline and the versions and implementation status of configuration controlled resources that comprise it. | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40040 | A | The MSS configuration management application service at each site shall make available to the SMC, "level of assembly" records that describe the composition of configuration items at the site. | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-40060 | A | The MSS configuration management application service at each site shall maintain historical status records about ECS configuration items at the site, identifying each item's:<br>a. current version;<br>b. current version's specifications and technical, operations, and maintenance documentation;<br>c. specification and technical documentation history;<br>d. "level of assembly" representation of the components comprising the items current and release configurations<br>e. version history | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40070 | A | The MSS configuration management application service at the SMC and the sites shall maintain records that establish traceability among operational baselines and releases. | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40080 | A | The MSS configuration management application service at the SMC and the sites shall maintain records describing dependencies among baseline objects. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |

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| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
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| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40100 | A | The MSS configuration management application service at the SMC and the DAACs shall maintain SCF-provided configuration data for individual algorithms, including:<br>a.　　algorithm development version numbers, identification codes, and reference numbers;<br>b.　　SCF point of contact's name and organization;<br>c.　　associated files' names, formats, sizes, and descriptions;<br>d.　　number of files by category and type. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40110 | A | The MSS configuration management application service shall display and report indentured, "level of assembly" lists that describe the component structure of configuration items. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |

| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
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| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40120 | A | The MSS configuration management application service at the SMC shall track the names and identifiers of the following items deployed at the sites: a.        ECS subsystems, networks, and configured system and network devices such as workstations, servers, and routers b.        ECS releases and  baselines c.        ECS hardware and software resources designated as configuration items d.        technical documentation and test materials; e.        scientific algorithms, including software, data and test materials (DAAC's only) f.        algorithm processing logic control and calibration coefficients data; g.        algorithm test documentation, including specifications, data files, and scripts. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-6340#A | The SMC shall track system configuration that, at a minimum, audits: a. Hardware resources b. Software resources |
| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |

| | | | SMC-6340#B | The SMC shall track system configuration that, at a minimum, audits:<br>a. Hardware resources<br>b. Software resources |
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| C-MSS-40140 | A | The MSS configuration management application service at the SMC shall maintain, and make available system-wide, information identifying the sites where individual versions of configuration items are located and the operational status of that version at the site. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-6340#B | The SMC shall track system configuration that, at a minimum, audits:<br>a. Hardware resources<br>b. Software resources |
| | | | SMC-6340#A | The SMC shall track system configuration that, at a minimum, audits:<br>a. Hardware resources<br>b. Software resources |
| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-40150 | A | The MSS configuration management application service at the SMC shall maintain, and make available system-wide, records that identify the current and previous versions of ECS hardware and software resources deployed to the sites. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-40160 | A | The MSS configuration management application service at the SMC shall maintain records that identify the current and previous versions of ECS documents associated with deployed ECS resources. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |

| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
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| C-MSS-40170 | A | The MSS configuration management application service at the SMC shall maintain, and distribute to each site, records that identify the baseline changes included in each release of ECS hardware and software deployed to the site. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-40180 | A | The MSS configuration management application service at the SMC shall maintain, and distribute to each site, records that identify the specifications and technical, operations, and maintenance documents associated with versions of ECS hardware and software configuration items deployed to the site. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-40190 | A | MSS configuration management application service at the SMC shall maintain, and distribute to each site, records that describe the change requests (enhancements and corrections) satisfied by new versions of ECS hardware, software, and documentation deployed to the sites. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-40200 | A | The MSS configuration management application service at the SMC shall maintain historical status records about ECS configuration items system-wide, to include each item's:<br>a.        current version;<br>b.        current version's specifications and technical, operations, and maintenance documentation;<br>c.        specifications and technical documentation history<br>d.        "level of assembly" representation of components comprising the item's current and release configurations:<br>e.        version history | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |

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## System Management Subsystem L4 to RbR traceability

| C-MSS-40210 | A | The MSS configuration management application service at the SMC shall maintain historical status records about ECS system releases, to include each release's:<br>a.     latest baseline plus approved changes.<br>b.     baseline history.<br>c.     latest release documentation.<br>d.     "level of assembly" representation of the subsystem and configuration item versions that comprise the release configuration<br>e.     history of changes, including changes to subordinate units/components.<br>f.     effectivity and installation status at operational sites.<br>g.     release configuration | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-40220 | A | The MSS configuration management application service at the SMC shall maintain historical status records about ECS baseline changes to include:<br>a.     sites affected;<br>b.     installation dates<br>c.     installation status. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-40240 | A | The MSS configuration management application service at the SMC shall maintain software-critical and security-sensitive items lists. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
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| C-MSS-40250 | A | The MSS configuration management application service at the SMC shall produce, and make available system-wide, reports containing the identity and change status of documents associated with deployed ECS resources. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-40260 | A | The MSS configuration management application service at the SMC shall produce, and make available system-wide, reports, containing the identity and change status of individual ECS resources deployed to the sites. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-40270 | A | The MSS configuration management application service at the SMC shall produce, and make available system-wide, reports containing the identity of resources comprising ECS baselines and releases. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. The management system shall support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-40280 | A | The MSS configuration management application service shall characterize ECS-controlled resources as system-wide or site-specific. | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |

| | | | SMC-2515#A | |
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| | | | | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40290 | A | The MSS configuration management application service shall accept and store baseline management data records provided via interactive user interface and formatted data files. | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40300 | A | The MSS configuration management application service shall produce formatted data files containing baseline management data records. | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40400 | IR1 | The MSS configuration management application service at the sites and the SMC shall maintain software libraries to store files containing versions and platform variants of:<br>a.      source code;<br>b.      binaries and executables;<br>c.      patches;<br>d.      calibration coefficients and control data;<br>e.      scripts;<br>f.      designs and design specifications;<br>g.      databases;<br>h.      technical documentation (both text and graphics);<br>i.      test data;<br>j.      test reports;<br>k.      interface specifications;<br>l.      configuration data.  (IR-1) | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#Ir1 | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40410 | IR1 | The MSS configuration management application service at each DAAC shall maintain user-definable software configuration status information for each algorithm. (IR-1) | SMC-2510#Ir1 | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. |
| | | | SMC-2515#Ir1 | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-40420 | IR1 | The MSS configuration management application service at each site shall maintain M&O staff-definable software configuration status information for each version of every software library file. | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#Ir1 | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40460 | A | The MSS configuration management application service at the SMC shall assemble unlicensed toolkit software files for posting to the ECS bulletin board.  Files consist of:<br>a.        source code;<br>b.        linkable object code for selected workstation configurations;<br>c.        makefiles that automate installation;<br>d.        installation instructions. | AM1-0220#A | The ECS shall have the capability to provide and the MISR, MOPITT, MODIS, and CERES PIs/TLs shall have the capability to receive IST toolkit software, IST toolkit software upgrades, and IST toolkit documentation. |
| | | | AM1-0220#B | The ECS shall have the capability to provide and the MISR, MOPITT, MODIS, and CERES PIs/TLs shall have the capability to receive IST toolkit software, IST toolkit software upgrades, and IST toolkit documentation. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |

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## System Management Subsystem L4 to RbR traceability

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| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-40470 | IR1 | The MSS configuration management application service shall regulate operations on software library files through use of individual and group permissions. | SMC-2510#Ir1 | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. |
| | | | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-40480 | IR1 | The MSS configuration management application service shall use a checkout/edit/checkin paradigm to govern changing of software library files. | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-2510#Ir1 | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. |
| C-MSS-40490 | IR1 | The MSS configuration management application service shall track each software library file that has been changed as a new version of the original file. | SMC-2510#Ir1 | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. |
| | | | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| C-MSS-40500 | IR1 | The MSS configuration management application service shall merge versions of software library files and identify version conflicts, if any. | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2510#Ir1 | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-40510 | IR1 | The MSS configuration management application service shall maintain records of actual changes made to ECS software library files in implementing system enhancement requests. | SMC-2510#Ir1 | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. |
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| | | | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2540#B | Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2540#A | Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-40520 | A | The MSS configuration management application service shall request, verify, and log a change request number for a software library file before allowing the file to be checked out for modification. | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2540#B | Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |

| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
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| | | | SMC-2540#A | Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-40530 | A | The MSS configuration management application service shall identify implementation status for each version of every software library file, reflecting the lifecycle stage to which it has been promoted. | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-40540 | IR1 | The MSS configuration management application service shall perform builds of baseline systems for ECS platforms and audit the builds such that they can be repeated. | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2540#B | Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment. |

| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
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| | | | SMC-2540#A | Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2510#Ir1 | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. |
| C-MSS-40550 | IR1 | The MSS configuration management application service shall reconstruct previous versions of software library files. | SMC-2510#Ir1 | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. |
| | | | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-40560 | IR1 | The MSS configuration management application service shall allow concurrent user access to software library files. | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2510#Ir1 | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. |
| C-MSS-40570 | IR1 | The MSS configuration management application service shall maintain an audit trail of all changes made to software library files. | SMC-2510#Ir1 | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS. |
| | | | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| C-MSS-40600 | A | The MSS configuration management application service shall provide a capability with which to specify a need for ECS system changes, both for enhancing system capabilities and for correcting non-conformance with system requirements. | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-40610 | A | The MSS configuration management application service shall store copies of non-conformance reports and requests to modify ECS components and configurations. | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40620 | A | The MSS configuration management application service at the sites shall provide a capability with which to forward non-conformance reports and requests for ECS configuration changes to the SMC. | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| C-MSS-40650 | A | The MSS configuration management application service at the SMC shall receive configuration change requests and non-conformance reports in electronic form from the sites. | SMC-2520#A | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
| | | | SMC-2520#B | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
| C-MSS-40660 | A | The MSS configuration management application service at the SMC shall distribute change evaluation requests to designated organizations system-wide and record evaluation assignments and distribution status. | SMC-2520#B | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-2520#A | The SMC shall evaluate received system enhancement requests to determine, at a minimum: <br> a. Technical feasibility <br> b. Implementation schedule <br> c. Expected costs <br> d. Existing system-wide hardware and software impacts |
| C-MSS-40670 | A | The MSS configuration management application service at the SMC shall receive and store impact assessments in response to change evaluation requests. | SMC-2520#A | The SMC shall evaluate received system enhancement requests to determine, at a minimum: <br> a. Technical feasibility <br> b. Implementation schedule <br> c. Expected costs <br> d. Existing system-wide hardware and software impacts |
| | | | SMC-2520#B | The SMC shall evaluate received system enhancement requests to determine, at a minimum: <br> a. Technical feasibility <br> b. Implementation schedule <br> c. Expected costs <br> d. Existing system-wide hardware and software impacts |
| C-MSS-40680 | A | The MSS configuration management service at the SMC shall electronically link impact assessments to their associated change requests. | SMC-2520#B | The SMC shall evaluate received system enhancement requests to determine, at a minimum: <br> a. Technical feasibility <br> b. Implementation schedule <br> c. Expected costs <br> d. Existing system-wide hardware and software impacts |
| | | | SMC-2520#A | The SMC shall evaluate received system enhancement requests to determine, at a minimum: <br> a. Technical feasibility <br> b. Implementation schedule <br> c. Expected costs <br> d. Existing system-wide hardware and software impacts |
| C-MSS-40690 | A | The MSS configuration management application service at the SMC shall maintain the status of responses to change evaluation requests. | SMC-2520#A | The SMC shall evaluate received system enhancement requests to determine, at a minimum: <br> a. Technical feasibility <br> b. Implementation schedule <br> c. Expected costs <br> d. Existing system-wide hardware and software impacts |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-2520#B | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
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| C-MSS-40700 | A | The MSS configuration management application service at the SMC shall record summaries of impact assessments received. | SMC-2520#B | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
| | | | SMC-2520#A | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
| C-MSS-40720 | A | The MSS configuration management application service at the SMC shall make non-conformance reports, configuration change requests, assessments, and status available for system-wide viewing. | SMC-2520#B | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
| | | | SMC-2520#A | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
| C-MSS-40730 | A | The MSS configuration management application service at the SMC shall maintain historical records of ECS configuration change requests, non-conformance reports, and system impact assessments. | SMC-2520#A | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |

| | | | SMC-2520#B | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
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| C-MSS-40750 | A | The MSS configuration management application service at the SMC shall track approval and closure status of configuration change requests and non-conformance reports. | SMC-2520#A | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
| | | | SMC-2520#B | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
| C-MSS-40760 | A | The MSS configuration management application service at the SMC shall report, and make available system-wide lists of the identity and disposition of configuration change requests and non-conformance reports against ECS baselines. | SMC-2520#B | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
| | | | SMC-2520#A | The SMC shall evaluate received system enhancement requests to determine, at a minimum:<br>a. Technical feasibility<br>b. Implementation schedule<br>c. Expected costs<br>d. Existing system-wide hardware and software impacts |
| C-MSS-40770 | A | The MSS configuration management application service at the SMC shall collect, and make available system-wide, the allocations, schedules and status of tasks for implementing CCB-approved changes to ECS hardware and software and for correcting non-conformance with system requirements. | SMC-2530#A | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |

| | | | SMC-2540#A | Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment. |
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| | | | SMC-2535#A | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2530#B | Upon approval of a system enhancement, the SMC shall provide overall management of the implementation of the approved changes to the hardware and system software. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2540#B | Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment. |
| C-MSS-40990 | IR1 | The MSS configuration management application service shall log the following information for configuration management events:<br>a. operation type;<br>b. userid of initiator;<br>c. date-time stamp;<br>d. host name.  (IR-1, at the sites only) | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#Ir1 | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |

| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
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| C-MSS-40995 | IR1 | The MSS configuration management application service shall generate chronological reports of logged CM events associated with M&O staff-selectable:<br>a.    time frames;<br>b.    operation types;<br>c.    userids;<br>d.    hosts. | SMC-2510#A | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| | | | SMC-2515#A | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2515#Ir1 | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2540#A | Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment. |
| | | | SMC-2515#B | The LSM shall provide configuration management for at least the operational hardware, system software, and scientific software within its element and for the migration of enhancements into the operational system. |
| | | | SMC-2540#B | Upon approval to include a fully tested enhancement to the algorithms, the SMC shall provide overall management of the implementation of the approved and modified software into the operational environment. |
| | | | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-42000 | B | The MSS Software Distribution Service shall maintain version controlled repositories for toolkit software, software upgrades, and documentation. | SMC-2120#B | The SMC shall make available for automated distribution to authorized users all unlicensed toolkit software, toolkit software upgrades, and toolkit documentation. |

| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
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| C-MSS-42010 | B | The MSS Software Distribution Service shall have the capability to retrieve the contents for each repository from the MSS Baseline Manager Service. | SMC-2120#B | The SMC shall make available for automated distribution to authorized users all unlicensed toolkit software, toolkit software upgrades, and toolkit documentation. |
| C-MSS-42020 | B | The MSS Software Distribution Service shall provide via the CSS Bulletin Board Service access to the toolkit repository/information. | SMC-2110#B | The SMC shall have the capability to generate managerial and operational directives affecting, at a minimum, an elements: a. Operational status b. Resource allocation c. Upgrade |
| | | | SMC-2620#B | The SMC shall maintain via the ECS bulletin board service, the SMC toolkit consisting of a list of SDPS approved CASE tools and references to standards for exchanging data for scientist use. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| | | | SMC-2120#B | The SMC shall make available for automated distribution to authorized users all unlicensed toolkit software, toolkit software upgrades, and toolkit documentation. |
| C-MSS-42030 | B | The MSS Software Distribution Service shall package software, databases, and documentation for delivery to destinations at both ECS and ECS-connected sites. | SMC-2120#B | The SMC shall make available for automated distribution to authorized users all unlicensed toolkit software, toolkit software upgrades, and toolkit documentation. |
| | | | SMC-2450#B | The SMC shall support the evaluation of the effectiveness of the training programs. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-42040 | B | The MSS Software Distribution Service shall schedule via the EMC Planning and Scheduling Service automatic and operator-assisted distribution of software packages. | SMC-2120#B | The SMC shall make available for automated distribution to authorized users all unlicensed toolkit software, toolkit software upgrades, and toolkit documentation. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-42070 | B | The MSS Software Distribution Service shall determine destinations from stored lists as well as via interactive input. | SMC-2120#B | The SMC shall make available for automated distribution to authorized users all unlicensed toolkit software, toolkit software upgrades, and toolkit documentation. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-42080 | B | The MSS Software Distribution Service shall have the capability to push software packages from a central distribution point/depot to remote target platforms (servers and workstations). | SMC-2120#B | The SMC shall make available for automated distribution to authorized users all unlicensed toolkit software, toolkit software upgrades, and toolkit documentation. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-42090 | B | The MSS Software Distribution Service at the site shall have the capability to pull  distribution packages from central distribution points/depots onto individual target destinations. | SMC-2120#B | The SMC shall make available for automated distribution to authorized users all unlicensed toolkit software, toolkit software upgrades, and toolkit documentation. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-42100 | B | The MSS Software Distribution Service shall initiate electronic transfer of distribution packages either automatically according to schedule or upon direct command. | SMC-2120#B | The SMC shall make available for automated distribution to authorized users all unlicensed toolkit software, toolkit software upgrades, and toolkit documentation. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-42110 | B | The MSS  Software Distribution Service shall maintain a record of successful package transfers as well as of each target that fails to receive a package intended for it. | SMC-2120#B | The SMC shall make available for automated distribution to authorized users all unlicensed toolkit software, toolkit software upgrades, and toolkit documentation. |
| | | | SMC-2535#B | Upon approval of an enhancement, the LSM shall facilitate the implementation of the approved changes within an elements hardware and software. |
| C-MSS-42200 | B | The MSS License Management Service shall maintain information on product identification,  licensing provisions, numbers and types of users | SMC-2130#B | The SMC shall administer and distribute licenses for deployed commercial-software funded by the ECS contract, including commercial software as authorized for specific  users. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-42230 | B | The MSS License Management Service shall distribute software license provisions system-wide. | SMC-2130#B | The SMC shall administer and distribute licenses for deployed commercial-software funded by the ECS contract, including commercial software as authorized for specific users. |
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| C-MSS-42240 | B | The MSS License Management Service shall create, install, modify, and reinstall software licenses on ECS servers. | SMC-2130#B | The SMC shall administer and distribute licenses for deployed commercial-software funded by the ECS contract, including commercial software as authorized for specific users. |
| C-MSS-42250 | B | The MSS License Management Service shall meter use of software licenses, | SMC-2130#B | The SMC shall administer and distribute licenses for deployed commercial-software funded by the ECS contract, including commercial software as authorized for specific users. |
| C-MSS-42270 | B | The MSS License Management Service shall have the capability to notify the M&O staff when license metering events occur. | SMC-2130#B | The SMC shall administer and distribute licenses for deployed commercial-software funded by the ECS contract, including commercial software as authorized for specific users. |
| C-MSS-42280 | B | The MSS License Management Service shall log license management events | SMC-2130#B | The SMC shall administer and distribute licenses for deployed commercial-software funded by the ECS contract, including commercial software as authorized for specific users. |
| C-MSS-42290 | B | The MSS License Management Service shall compile license utilization statistics. | SMC-2130#B | The SMC shall administer and distribute licenses for deployed commercial-software funded by the ECS contract, including commercial software as authorized for specific users. |
| C-MSS-42300 | B | The MSS License Management Service shall report license utilization statistics. | SMC-2130#B | The SMC shall administer and distribute licenses for deployed commercial-software funded by the ECS contract, including commercial software as authorized for specific users. |
| C-MSS-45010 | B | The MSS Inventory/Logistics Management Service at the SMC shall maintain an on-line, system-wide catalog of non-expendable and consumable ECS resources. | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |

| C-MSS-45020 | B | The MSS Inventory/Logistics Management Service at the SMC shall provide consolidated, system-wide views of ECS sites' inventory data. | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
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| C-MSS-45030 | B | The MSS Inventory/Logistics Management at the SMC shall track excess resources designated for reutilization or disposal. | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| C-MSS-45040 | B | The MSS Inventory/Logistics Management Service at the SMC shall generate site and multi-site inventory reports for printout and display. | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-45050 | B | The MSS Inventory/Logistics Management Service shall maintain inventory records of individual non-expendable and consumable ECS resources. | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-2505#B | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |
| C-MSS-45060 | B | The MSS Inventory/Logistics Management Service shall have the capability to update and track ECS resources status. | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-2505#B | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |
| C-MSS-45070 | B | The MSS Inventory/Logistics Management Service shall record attributes of inventoried resources. | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-2505#B | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-45080 | B | The MSS Inventory/Logistics Management Service shall distinguish between ECS resources and non-ECS resources in the inventory. | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
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| | | | SMC-2505#B | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |
| C-MSS-45090 | B | The MSS Inventory/Logistics Management Service shall generate site inventory reports for printout and display. | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-2505#B | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| C-MSS-45200 | B | The MSS Logistics Management Service shall provide the capability to input, store, update and view/print specified site's spare inventory information. | SMC-2300#B | The SMC shall monitor the spares inventory within each element. |

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## System Management Subsystem L4 to RbR traceability

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| C-MSS-45210 | B | The MSS Inventory/Logistics Management Service at the SMC shall provide the capability to produce individual site or consolidated sites spare related reports based on operator entered criteria. | SMC-2300#B | The SMC shall monitor the spares inventory within each element. |
| C-MSS-45220 | B | The MSS Inventory/Logistics Management Service shall provide the capability to input, store, update, and view/print information concerning site spare parts order information. | SMC-2300#B | The SMC shall monitor the spares inventory within each element. |
| | | | SMC-2505#B | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| C-MSS-45230 | B | The MSS Inventory/Logistics Management Service shall provide the capability to keep track of spares on-hand quantities, and quantity used. | SMC-2300#B | The SMC shall monitor the spares inventory within each element. |
| | | | SMC-2305#B | The LSM shall monitor the spares inventory within its element. |
| C-MSS-45240 | B | The MSS Inventory/Logistics Management Service shall provide the capability to generate site spare related reports. | SMC-2300#B | The SMC shall monitor the spares inventory within each element. |
| | | | SMC-2305#B | The LSM shall monitor the spares inventory within its element. |
| C-MSS-45245 | B | The MSS Inventory/Logistics Management Service shall provide the capability to generate order information for resupply of spare parts. | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |

| | | | SMC-2335#B | The LSM shall manage the replenishment of consumable items for its element. |
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| C-MSS-45250 | B | The MSS Inventory/Logistics Management Service shall provide the capability to input, store, maintain, and view/print site spare parts (orders) information. | SMC-2310#B | The SMC shall oversee the replenishment of spare parts for all elements. |
| | | | SMC-2315#B | The LSM shall manage the replenishment of spare parts within its element. |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| C-MSS-45260 | B | The MSS Inventory/Logistics Management Service shall have the capability to identify those items whose on-hand quantity has reached the established reorder point. | SMC-2310#B | The SMC shall oversee the replenishment of spare parts for all elements. |
| | | | SMC-2315#B | The LSM shall manage the replenishment of spare parts within its element. |
| C-MSS-45270 | B | The MSS Inventory/Logistics Management Service shall provide the capability to generate site spare parts related reports based on operator entered criteria. | SMC-2310#B | The SMC shall oversee the replenishment of spare parts for all elements. |
| | | | SMC-2315#B | The LSM shall manage the replenishment of spare parts within its element. |
| C-MSS-45280 | B | The MSS Inventory/Logistics Management Service at the SMC shall provide the capability to generate individual site or consolidated sites consumable items reports based on operator entered criteria. | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |

## System Management Subsystem L4 to RbR traceability

| C-MSS-45290 | B | The MSS Inventory/Logistics Management Service shall provide the capability to input, store, update, and view/print site consumable item information. | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
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| | | | SMC-2325#B | The LSM shall monitor the consumable inventory within its element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| C-MSS-45300 | B | The MSS Inventory/Logistics Management Service shall provide the capability to generate site consumable items related reports based on operator entered criteria. | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| | | | SMC-2325#B | The LSM shall monitor the consumable inventory within its element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| C-MSS-45310 | B | The MSS Inventory/Logistics Management Service shall provide the capability to input, store, maintain, and view/print sites' consumable items orders information. | SMC-2305#B | The LSM shall monitor the spares inventory within its element. |
| | | | SMC-2330#B | The SMC shall monitor the replenishment of consumable items for all elements. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| C-MSS-45320 | B | The MSS Inventory/Logistics Management Service at the SMC shall provide the capability to generate individual site or consolidated sites consumable items on-order reports based on operator entered criteria. | SMC-2330#B | The SMC shall monitor the replenishment of consumable items for all elements. |
| C-MSS-50000 | B | The MSS Maintenance Management Service shall provide the capability to view specified site's PM information . | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |
| C-MSS-50010 | B | The MSS  Maintenance Management Service  shall provide the capability to view specified site's corrective maintenance information. | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |
| C-MSS-50020 | B | The MSS Maintenance Management Service  shall provide the M&O staff the capability to produce PM and corrective maintenance reports based on operator entered criteria. | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8730#B | The SMC shall have the capability to generate reports showing detailed and summary information about the maintenance schedule for system hardware, system software, and scientific software, including, at a minimum:<br>a. Routine maintenance schedules<br>b. Non-routine maintenance schedules<br>c. Upgrade maintenance schedule |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-50030 | B | The MSS Maintenance Management Service at the SMC shall have the capability to receive specified site maintenance data for use in maintenance trends analysis. | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |
| C-MSS-50040 | B | The MSS Maintenance Management Service shall provide the capability to input, store, maintain, and view/print Preventive Maintenance (PM) information for site equipment. | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |
| | | | SMC-2205#B | The LSM shall support on-site preventive and corrective hardware and systems software maintenance. |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8730#B | The SMC shall have the capability to generate reports showing detailed and summary information about the maintenance schedule for system hardware, system software, and scientific software, including, at a minimum:<br>a. Routine maintenance schedules<br>b. Non-routine maintenance schedules<br>c. Upgrade maintenance schedule |
| C-MSS-50050 | B | The MSS Maintenance Management Service shall provide the capability to input, store, maintain, and view/print key information concerning PM performed. | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8730#B | The SMC shall have the capability to generate reports showing detailed and summary information about the maintenance schedule for system hardware, system software, and scientific software, including, at a minimum:<br>a. Routine maintenance schedules<br>b. Non-routine maintenance schedules<br>c. Upgrade maintenance schedule |
| | | | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |
| | | | SMC-2205#B | The LSM shall support on-site preventive and corrective hardware and systems software maintenance. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-50060 | B | The MSS Maintenance Management Service shall provide the capability to input, store, maintain, and view/print corrective maintenance performed (CMP) information. | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |
| | | | SMC-2205#B | The LSM shall support on-site preventive and corrective hardware and systems software maintenance. |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8730#B | The SMC shall have the capability to generate reports showing detailed and summary information about the maintenance schedule for system hardware, system software, and scientific software, including, at a minimum:<br>a. Routine maintenance schedules<br>b. Non-routine maintenance schedules<br>c. Upgrade maintenance schedule |
| C-MSS-50070 | B | The MSS Maintenance Management Service shall have the capability, via M&O Staff entered criteria, to retrieve and display information relevant to PM and corrective maintenance services previously performed. | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |
| | | | SMC-2205#B | The LSM shall support on-site preventive and corrective hardware and systems software maintenance. |
| C-MSS-50090 | B | The MSS Maintenance Management Service shall have the  capability to replaced/modified equipment information maintained in the MSS Baseline Manager Service database. | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |
| | | | SMC-2205#B | The LSM shall support on-site preventive and corrective hardware and systems software maintenance. |
| C-MSS-50100 | B | The MSS Maintenance Management Service shall log the following information for operations performed and detected errors: operation type, userid of initiator, date time stamp; and host name | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |

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| | | | SMC-2205#B | The LSM shall support on-site preventive and corrective hardware and systems software maintenance. |
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| C-MSS-50110 | B | The MSS Maintenance Management Service shall generate chronological reports of logged events associated with user selectable: time frames; operation types; userids; and hosts. | SMC-2200#B | The SMC shall assist each site or element, when necessary, in the performance of on-site preventive and corrective hardware and systems software maintenance. |
| | | | SMC-2205#B | The LSM shall support on-site preventive and corrective hardware and systems software maintenance. |
| C-MSS-50120 | B | The MSS Maintenance Management Service  shall provide the capability to maintain  sites' off-site maintenance information. | SMC-2210#B | The SMC shall coordinate with each site or element in the management of off-site corrective hardware and systems software maintenance. |
| C-MSS-50130 | B | The MSS Maintenance Management Service  shall provide off-site maintenance reports based on operator entered criteria. | SMC-2210#B | The SMC shall coordinate with each site or element in the management of off-site corrective hardware and systems software maintenance. |
| C-MSS-50140 | B | The MSS Maintenance Management Service  shall record off-site maintenance information: identification of component; description of problem; and corrective action taken. | SMC-2210#B | The SMC shall coordinate with each site or element in the management of off-site corrective hardware and systems software maintenance. |
| C-MSS-50160 | B | The MSS Maintenance Management Service shall provide the capability to input off-site corrective hardware and software information. | SMC-2210#B | The SMC shall coordinate with each site or element in the management of off-site corrective hardware and systems software maintenance. |
| | | | SMC-2215#B | The LSM shall coordinate with the SMC in the management of off-site corrective hardware and systems software maintenance. |
| C-MSS-50170 | B | The MSS Maintenance Management Service shall provide the capability to store off-site corrective hardware and software information. | SMC-2210#B | The SMC shall coordinate with each site or element in the management of off-site corrective hardware and systems software maintenance. |
| | | | SMC-2215#B | The LSM shall coordinate with the SMC in the management of off-site corrective hardware and systems software maintenance. |
| C-MSS-50180 | B | The MSS Maintenance Management Service shall provide the capability to update off-site corrective hardware and software information. | SMC-2210#B | The SMC shall coordinate with each site or element in the management of off-site corrective hardware and systems software maintenance. |

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| | | | SMC-2215#B | The LSM shall coordinate with the SMC in the management of off-site corrective hardware and systems software maintenance. |
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| C-MSS-50190 | B | The MSS Maintenance Management Service shall provide the capability to view off-site corrective hardware and software information. | SMC-2210#B | The SMC shall coordinate with each site or element in the management of off-site corrective hardware and systems software maintenance. |
| | | | SMC-2215#B | The LSM shall coordinate with the SMC in the management of off-site corrective hardware and systems software maintenance. |
| C-MSS-50200 | B | The MSS Maintenance Management Service shall provide the capability to generate off-site maintenance reports based on operator entered criteria. | SMC-2210#B | The SMC shall coordinate with each site or element in the management of off-site corrective hardware and systems software maintenance. |
| | | | SMC-2215#B | The LSM shall coordinate with the SMC in the management of off-site corrective hardware and systems software maintenance. |
| C-MSS-50210 | B | The MSS Maintenance Management Service  shall provide the capability to access a specified site's off-site maintenance repair information. | SMC-2220#B | The SMC shall monitor hardware and systems software maintenance status for off-site repair actions. |
| C-MSS-50230 | B | The MSS Maintenance Management Service  shall provide the capability to produce maintenance status reports. | SMC-2220#B | The SMC shall monitor hardware and systems software maintenance status for off-site repair actions. |
| C-MSS-50235 | B |  The MSS Maintenance Management Service shall have the capability to schedule maintenance events via the MSS Planning and Scheduling Service. | SMC-2100#B | The SMC shall have the capability to generate and send ground operations (i.e., non-instrument related) events to sites and elements for implementation.  Ground operations events include, at a minimum, actions associated with: a. Configuring element resources b. Fault recovery c. Security d. Maintenance e. Testing f. Simulations g. Logistics h. Training i. Accounting and accountability j. General requests for information |

| | | | SMC-2105#B | The LSM shall convey ground operations (i.e., non-instrument related) events to sites or elements for implementation.  Ground operations events include, at a minimum, actions associated with:<br>a. Configuring element resources<br>b. Fault recovery<br>c. Security<br>d. Maintenance<br>e. Testing<br>f. Simulations<br>g. Logistics<br>h. Training classes<br>i. Accounting and accountability<br>j. General requests for information |
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| | | | SMC-1300#B | The SMC shall support and maintain the ECS policies and procedures regarding instrument and ground event scheduling, including, at a minimum:<br>a. Mission and science guidelines<br>b. Directives for scheduling instrument data ingest, processing, reprocessing, retrieval, and data distribution |
| | | | SMC-1305#B | The LSM shall  provide SMC  access to  scheduling information from each element. |
| | | | SMC-1320#B | The SMC shall support and maintain priorities used in scheduling ground events. |
| | | | SMC-1350#B | The SMC shall generate scheduling directives for system level, site-to-site, and element-to-element maintenance activities. |
| | | | SMC-1310#B | The SMC shall support and  maintain the allocation of  ground event functions  and capabilities to each site and element. |
| C-MSS-51010 | B | The MSS Training Management  Service shall provide the capability to input, store, maintain, and view/print training information. | SMC-8300#B |  The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-2400#B | The SMC shall support the management of training and certification programs for ECS. |
| C-MSS-51020 | B | The MSS Training Management Service shall provide the capability to input, store, maintain, and view/print training records information. | SMC-2400#B | The SMC shall support the management of training and certification programs for ECS. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| C-MSS-51030 | B | The MSS Training Management Service shall provide the capability to input, store, maintain, and view/print site training requirements information. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-2400#B | The SMC shall support the management of training and certification programs for ECS. |
| | | | SMC-2405#B | The LSM shall coordinate with the SMC in managing the training program for its element. |
| C-MSS-51060 | B | The MSS Training Management Service at the SMC shall provide the capability to prepare, update, store, view/print, and disseminate training courses descriptions, course prerequisites, resource requirements, and schedules. | SMC-2410#B | The SMC shall provide support for the development of schedules for training courses. |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| C-MSS-51070 | B | The MSS Training Management Service shall provide the capability to retrieve and view/print training courses and schedules information from a SMC training information repository. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |

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| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
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| | | | SMC-2410#B | The SMC shall provide support for the development of schedules for training courses. |
| | | | SMC-2415#B | The LSM shall receive from the SMC descriptions and schedules for training courses. |
| C-MSS-51080 | B | The MSS Training Management Service at the SMC shall provide the capability to prepare, update, store, and view/print a list of self study, supervisory, and testing requirements for each of the OJT designated ECS  positions. | SMC-2420#B | The SMC shall support the development of on-the-job training. |
| | | | SMC-8300#B |  The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| C-MSS-51090 | B | The MSS Training Management Service at the SMC shall provide the capability to prepare, update, store copy of, and view/print training material. | SMC-8300#B |  The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-2430#B | The SMC shall support the development and use of training materials. |
| C-MSS-51100 | B | The MSS Training Management Service at the SMC shall provide the capability to capture and make available suggestions/ recommendations concerning the use of training material for applicable courses. | SMC-2430#B | The SMC shall support the development and use of training materials. |
| C-MSS-51110 | B | The MSS Training Management Service at the SMC shall provide the capability to capture, summarize, and make available course critique. | SMC-2450#B | The SMC shall support the evaluation of the effectiveness of the training programs. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-51115 | B | The MSS Training Management Application Service shall make available to the MSS Inventory Management Service, any necessary information about training materials, for the purposes of maintaining these materials as inventory items. | SMC-2430#B | The SMC shall support the development and use of training materials. |
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| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| C-MSS-51120 | B | The MSS Training Management Service shall have the capability to schedule training events. | SMC-1300#B | The SMC shall support and maintain the ECS policies and procedures regarding instrument and ground event scheduling, including, at a minimum:<br>a. Mission and science guidelines<br>b. Directives for scheduling instrument data ingest, processing, reprocessing, retrieval, and data distribution |
| | | | SMC-1310#B | The SMC shall support and maintain the allocation of ground event functions and capabilities to each site and element. |
| | | | SMC-1320#B | The SMC shall support and maintain priorities used in scheduling ground events. |
| | | | SMC-1305#B | The LSM shall provide SMC access to scheduling information from each element. |
| | | | SMC-2100#B | The SMC shall have the capability to generate and send ground operations (i.e., non-instrument related) events to sites and elements for implementation. Ground operations events include, at a minimum, actions associated with:<br>a. Configuring element resources<br>b. Fault recovery<br>c. Security<br>d. Maintenance<br>e. Testing<br>f. Simulations<br>g. Logistics<br>h. Training<br>i. Accounting and accountability<br>j. General requests for information |

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| | | | | The LSM shall convey ground operations (i.e., non-instrument related) events to sites or elements for implementation.  Ground operations events include, at a minimum, actions associated with:<br>a. Configuring element resources<br>b. Fault recovery<br>c. Security<br>d. Maintenance<br>e. Testing<br>f. Simulations<br>g. Logistics<br>h. Training classes<br>i. Accounting and accountability<br>j. General requests for information |
| C-MSS-52010 | B | The MSS Policy and Procedures Management Service at the SMC shall provide the capability to prepare, store, maintain, and make available for distribution ECS policies and procedures. | SMC-2600#B | |
| | | | | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

## System Management Subsystem L4 to RbR traceability

| C-MSS-52020 | B | The MSS Policy and Procedures Management Service shall provide the capability to access, select, and display/print ECS policies and procedures. | SMC-2600#B | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
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| | | | SMC-2605#B | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |

| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
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| C-MSS-52030 | B | The MSS Policy and Procedures Management Service shall provide the capability to input, store, maintain, and view/print site specific policies and procedures. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-2600#B | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-2605#B | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
|---|---|---|---|---|
| C-MSS-52040 | B | The MSS Policy and Procedures Management Service shall provide a bulletin board service with information on ECS, status, events and news, | SMC-2620#B | The SMC shall maintain via the ECS bulletin board service, the SMC toolkit consisting of a list of SDPS approved CASE tools and references to standards for exchanging data for scientist use. |
| C-MSS-52050 | B | The MSS Policy and Procedures Management Service shall maintain a bulletin board service with information on ECS, status, events and news, | SMC-2620#B | The SMC shall maintain via the ECS bulletin board service, the SMC toolkit consisting of a list of SDPS approved CASE tools and references to standards for exchanging data for scientist use. |
| C-MSS-56010 | B | The MSS Mode Management Service shall support a operational mode capability | EOSD0510#B | ECS shall be capable of being tested during all phases of its development and flight operations. |
| C-MSS-56020 | B | The MSS Mode Management Service shall support a test mode capability | EOSD0630#B | ECS shall be capable of simultaneously supporting the Independent Verification and Validation (IV&V) activities and ECS development activities, both before and after flight operations begin. |
| | | | EOSD0720#B | Each ECS element shall be able to validate at any time during the life-time of the ECS that the ECS element primary functional performance is consistent with pre-defined operational benchmark tests. |

## System Management Subsystem L4 to RbR traceability

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| | | | FOS-0025#B | The FOS shall provide a test mode of operation that does not interfere with ongoing operations, and which supports independent element and subsystem tests, end-to-end tests, and integration and verification activities occurring during at a minimum:<br>a. Spacecraft and instrument integration and test<br>b. Pre-launch<br>c. Upgrades and enhancements |
| C-MSS-56030 | B | The MSS Mode Management Service shall support a training mode capability | FOS-0020#B | The FOS shall provide a training mode of operation for use during operator training and/or user training that does not interfere with ongoing operations. |
| C-MSS-56040 | B | The MSS Mode Management Service shall have the capability to monitor each independently executing mode for performance statistics. | EOSD0780#B | Each ECS element shall be capable of being monitored during testing. |
| | | | EOSD1040#B | ECS shall provide sufficient capacity to permit the reprocessing of all EOS science data at twice the incoming data rate at a minimum, concurrently with processing of new data. |
| | | | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-56050 | B | The MSS Mode Management Service shall provide fault detection and isolation capabilities for each independently executing mode. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
|---|---|---|---|---|
| | | | EOSD0780#B | Each ECS element shall be capable of being monitored during testing. |
| C-MSS-56060 | B | The MSS Mode Management Service shall maintain a collection of management statistics for each mode supported. | EOSD0780#B | Each ECS element shall be capable of being monitored during testing. |
| C-MSS-56070 | B | The MSS Mode Management test mode shall be capable of executing simultaneously with the operational mode | EOC-9510#B | The EOC shall support the following simultaneous activities:<br>a. Performing mission coordination, planning, scheduling, monitoring, and commanding of the U.S. spacecraft and instruments as listed in Table D-1.<br>b. At least two of the following: mission test activities, EOC system upgrades, training, and/or maintenance |
| | | | FOS-0025#B | The FOS shall provide a test mode of operation that does not interfere with ongoing operations, and which supports independent element and subsystem tests, end-to-end tests, and integration and verification activities occurring during at a minimum:<br>a. Spacecraft and instrument integration and test<br>b. Pre-launch<br>c. Upgrades and enhancements |
| | | | EOSD0630#B | ECS shall be capable of simultaneously supporting the Independent Verification and Validation (IV&V) activities and ECS development activities, both before and after flight operations begin. |
| C-MSS-56080 | B | The MSS Mode Management training mode shall be capable of executing simultaneously with the operational mode. | EOC-9510#B | The EOC shall support the following simultaneous activities:<br>a. Performing mission coordination, planning, scheduling, monitoring, and commanding of the U.S. spacecraft and instruments as listed in Table D-1.<br>b. At least two of the following: mission test activities, EOC system upgrades, training, and/or maintenance |
| | | | FOS-0020#B | The FOS shall provide a training mode of operation for use during operator training and/or user training that does not interfere with ongoing operations. |

| C-MSS-56090 | B | The MSS Mode Management Service shall have the capability to identify components which have been taken off-line for maintenance | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
|---|---|---|---|---|
| C-MSS-57500 | A | The Trouble Ticketing Service shall have a graphical user interface to support the entry and editing of trouble tickets. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-57510 | A | The Trouble Ticketing Service shall provide the ability to automatically notify the originator of the trouble ticket of changes in status. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-57520 | A | The Trouble Ticketing Service shall provide an Application Program Interface which supports integration of entry of trouble tickets by other packages. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-57530 | A | The Trouble Ticketing Service shall provide the ability to search historical and current trouble tickets by various criteria including keyword, user id, and trouble ticket ID. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |

## System Management Subsystem L4 to RbR traceability

| C-MSS-57540 | A | The Trouble Ticketing Service shall provide the ability to forward trouble tickets from one organization to another to facilitate the escalation of trouble tickets (e.g. from DAAC to SMC). | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
|---|---|---|---|---|
| C-MSS-57550 | A | The Trouble Ticketing Service shall provide the ability to maintain different trouble ticket statuses including:  Open, Work-In-Progress, Closed, Archived. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-57560 | A | The Trouble Ticketing Service shall provide the ability to search for trouble tickets relating to the same resource (equipment). | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-57580 | A | The Trouble Ticketing Service shall provide the ability to store the following minimum set of information : unique trouble ticket ID, status, description, associated resources, problem solution, originator, keywords. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-57590 | A | The Trouble Ticketing Service shall integrate with the MSS framework to allow management and monitoring of its services. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-57600 | A | The Trouble Ticketing Service shall allow entry of a trouble ticket by any registered user of the system. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-57610 | A | The Trouble Ticketing Service shall provide the capability to generate reports from the its data. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-57620 | A | The Trouble Ticketing Service shall allow output of reports to either the screen or printer. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |

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| C-MSS-57630 | A | The Trouble Ticketing Service shall provide customization features to allow sites to specify notification and escalation rules. | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
|---|---|---|---|---|
| C-MSS-60010 | IR1 | The MSS Fault Management Application Service shall provide the capability to create and display graphical representations of a given network topology consisting of the following:<br>a.   routers<br>b.   communication lines<br>c.   hosts<br>d.   peripherals<br>e.   applications | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br><br>b). Science Algorithm Integration |
| | | | EOSD0500#Ir1 | ECS shall perform the following major functions:<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |

## System Management Subsystem L4 to RbR traceability

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| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0760#A | The ESN report generation function shall  provide, on an interactive  and scheduled basis, accounting,  network configuration, fault and performance management information. |
| | | | ESN-0640#A | The ESN shall include  management functions at each ECS element, equipment or gateway  within the ESN. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

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## *System Management Subsystem L4 to RbR traceability*

| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
|---|---|---|---|---|
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | ESN-0760#Ir1 | The ESN report generation function shall provide, on an interactive and scheduled basis, network configuration, fault and performance management information. |
| | | | ESN-0640#Ir1 | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-60020 | IR1 | The MSS Fault Management Application Service shall provide the capability to define categories of faults. | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
|---|---|---|---|---|
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
|---|---|---|---|---|
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br><br>b). Science Algorithm Integration |
| C-MSS-60030 | A | The MSS Fault Management Application Service shall provide the capability to assign faults to categories. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |

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| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
|---|---|---|---|---|
| C-MSS-60040 | A | The MSS Fault Management Application Service shall provide the capability to assign severity levels to faults. | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-60050 | A | The MSS Fault Management Application Service shall be capable of providing the Management Data Access Service with a configurable list of fault categories that specify whether to enable or disable the logging of fault notifications for that fault category. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
|---|---|---|---|---|
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| C-MSS-60060 | A | The MSS Fault Management Application Service shall provide the capability to enable or disable the display of fault notifications received from a specific managed object based on fault category assigned to that fault. | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |

## System Management Subsystem L4 to RbR traceability

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| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

| C-MSS-60070 | A | The MSS Fault Management Application Service shall provide the capability to specify additional information to be added to a disk log file, based on the fault category, when the notification of a fault is received. | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
|---|---|---|---|---|
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: a). System Management b). Science Algorithm Integration c). Product Generation d). Data Archive/Distribution e). User Support Services f). System Maintenance |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum: a. detect the occurrence of faults, b. control the collection of fault information, and c. diagnose the probable cause of a detected fault |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum: a. detect the occurrence of faults, b. control the collection of fault information, and c. diagnose the probable cause of a detected fault |
| C-MSS-60080 | IR1 | The MSS Fault Management Application Service shall have the capability to establish, view, modify and delete thresholds on performance metrics it measures. | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum: a. On/off b. Pass/fail c. Various levels of degradation |
| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |

## System Management Subsystem L4 to RbR traceability

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|---|---|---|---|---|
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br><br>b). Science Algorithm Integration |
| | | | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | ESN-0910#A | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
|---|---|---|---|---|
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>a. set, view, and change alert threshold values<br>b. enable and disable alert notifications (alarms) within a system<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0910#Ir1 | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | SMC-3375#Ir1 | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail |
| | | | SMC-3390#Ir1 | The SMC shall generate alert indicators of fault or degraded conditions. |
| | | | SMC-3395#Ir1 | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions with the appropriate corrective actions. |
| C-MSS-60100 | IR1 | The MSS Fault Management Application Service shall have the capability to poll for the detection of fault/performance information. | SMC-3390#Ir1 | The SMC shall generate alert indicators of fault or degraded conditions. |
| | | | SMC-3395#Ir1 | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions with the appropriate corrective actions. |

| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
|---|---|---|---|---|
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| C-MSS-60110 | IR1 | The MSS Fault Management Application Service shall be capable of receiving fault notifications. | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |

| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
|---|---|---|---|---|
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | EOSD0500#Ir1 | ECS shall perform the following major functions:<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing |
| | | | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |

## System Management Subsystem L4 to RbR traceability

| | | | | |
|---|---|---|---|---|
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | SMC-3390#Ir1 | The SMC shall generate alert indicators of fault or degraded conditions. |
| | | | SMC-3395#Ir1 | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions with the appropriate corrective actions. |
| C-MSS-60120 | IR1 | The MSS Fault Management Application Service shall have the capability to define the frequency with which polling is done for the detection of fault/performance information. | SMC-3390#Ir1 | The SMC shall generate alert indicators of fault or degraded conditions. |
| | | | SMC-3395#Ir1 | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions with the appropriate corrective actions. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |

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## *System Management Subsystem L4 to RbR traceability*

| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
|---|---|---|---|---|
| | | | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of  faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |

| C-MSS-60130 | IR1 | The MSS Fault Management Application Service shall provide the capability to detect the following types of faults, errors and events:<br>a.  communications software version mismatch errors<br>b.  communication software configuration errors<br>c.  the following errors in communication hardware:<br>   1.  host not reachable<br>   2.  router not reachable<br>   3. errors and failures of communication links<br>d.  Errors in the communications protocols supported<br>e.  degradation of performance due to established thresholds being exceeded<br>f.  Peripherals<br>g.  Databases<br>h.  Applications:<br>   1.  process missing (Application or COTS product)<br>   2.  process in a loop<br>   3.  process failed | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |

| | | | ESN-0650#A | |
|---|---|---|---|---|
| | | | | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility: <br> a. Network Configuration Management <br> b. Network Fault Management <br> c. Network Performance Management <br> d. Network Security Management |
| | | | ESN-0640#A | |
| | | | | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| | | | ESN-0620#A | |
| | | | | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0910#A | |
| | | | | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility: <br> a. set, view, and change alert threshold values <br> b. enable and disable alert notifications (alarms) within a system <br> c. enable and disable event reports within a system <br> d. manage error and event logging files |
| | | | ESN-0900#A | |
| | | | | Errors and events to be detected shall include at least: <br> a. communications software version or configuration errors <br> b. communications hardware errors <br> c. protocol errors <br> d. performance degradation conditions <br> e. telecommunications errors and failures |
| | | | ESN-0830#A | |
| | | | | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | SMC-4315#B | |
| | | | | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | SMC-3375#B | |
| | | | | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum: <br> a. On/off <br> b. Pass/fail <br> c. Various levels of degradation |

| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
|---|---|---|---|---|
| | | | ESN-0910#B | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility: <br> a. set, view, and change alert threshold values <br> b. enable and disable alert notifications (alarms) within a system <br> c. enable and disable event reports within a system <br> d. manage error and event logging files |
| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum: <br> a. On/off <br> b. Pass/fail <br> c. Various levels of degradation |
| | | | SMC-4315#A | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
| | | | SMC-3305#Ir1 | The LSM shall monitor its elementÍs hardware, and scientific and system software status to determine their operational states including, at a minimum: <br> a. On-line <br> b. Failed |

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| | | | SMC-3375#Ir1 | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail |
|---|---|---|---|---|
| | | | EOSD0500#Ir1 | ECS shall perform the following major functions:<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing |
| | | | SMC-4315#Ir1 | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | ESN-0910#Ir1 | The ESN fault management shall provide the capability to perform the following functions, at a minimum, both locally and at the ESN network management facility:<br>c. enable and disable event reports within a system<br>d. manage error and event logging files |
| | | | ESN-0900#Ir1 | Errors and events to be detected shall include at least:<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0830#Ir1 | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | ESN-0740#Ir1 | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0650#Ir1 | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0640#Ir1 | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |

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| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0900#B | Errors and events to be detected shall include at least:<br>a. communications software version or configuration errors<br>b. communications hardware errors<br>c. protocol errors<br>d. performance degradation conditions<br>e. telecommunications errors and failures |
| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol  stack implemented in  any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0830#B | The ESN  shall have the capability to detect and report communications related errors and events  both locally and at the ESN network management facility. |

| | | | | |
|---|---|---|---|---|
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0640#B | The ESN shall include management functions at each ECS element, equipment or gateway within the ESN. |
| C-MSS-60140 | IR1 | The MSS Site Fault Management Application Service shall have the capability to generate a fault notification when a predefined threshold on a performance metric is exceeded. | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3395#A | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3395#B | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions. |
| | | | SMC-3390#Ir1 | The SMC shall generate alert indicators of fault or degraded conditions. |
| | | | SMC-3395#Ir1 | The LSM shall generate, in response to each limit check threshold, alert indicators of fault or degraded conditions with the appropriate corrective actions. |
| C-MSS-60150 | IR1 | The MSS Fault Management Application Service shall have the capability to receive fault notifications from the Management Agent Service. | SMC-4315#Ir1 | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |

| | | | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for: <br>a. Capturing, by an application, of management data <br>b. Exchanging management data between a managed application and its management agent <br>c. Exchanging management data between a management agent and the LSM <br>d. Performing analyses and generating reports using management data |
|---|---|---|---|---|
| | | | SMC-4315#B | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for: <br>a. Capturing, by an application, of management data <br>b. Exchanging management data between a managed application and its management agent <br>c. Exchanging management data between a management agent and the LSM <br>d. Performing analyses and generating reports using management data |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum: <br>a. detect the occurrence of  faults, <br>b. control the collection of fault information, and <br>c. diagnose the probable cause of a detected fault |
| | | | SMC-4315#A | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| C-MSS-60160 | A | The MSS EMC Fault Management Application Service shall have the capability to receive notifications of detected faults and degradation of performance from: <br>a.        Site fault management applications <br>b.        Other external systems as defined in Section 5.1. | ESN-0800#A | The ESN shall be capable of displaying  the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |

| | | | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
|---|---|---|---|---|
| C-MSS-60161 | B | The MSS EMC Fault Management Application Service shall have the capability to receive notifications of detected faults and degradation of performance from:<br>a. Site fault management applications<br>b. EBnet<br>c. ASTER<br>d. NOAA (SAA)<br>e. Landsat(MMO)<br>f. NSI<br>g. NOLAN | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | ESN-0800#B | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| C-MSS-60170 | IR1 | The MSS EMC Fault Management Application Service shall be capable of requesting fault notification and performance degradation data from :<br>a. Site Fault Management Applications<br>b. Other external systems as defined in Section 5.1. | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |

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| | | | SMC-4310#A | The SMC shall perform fault analysis including, at a minimum:<br>a. Isolation<br>b. Location<br>c. Identification<br>d. Characterization |
|---|---|---|---|---|
| | | | ESN-0800#A | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0800#Ir1 | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | SMC-3390#Ir1 | The SMC shall generate alert indicators of fault or degraded conditions. |
| | | | SMC-4310#Ir1 | The SMC shall perform fault analysis including, at a minimum:<br>a. Isolation<br>b. Location<br>c. Identification<br>d. Characterization |
| C-MSS-60171 | B | The MSS EMC Fault Management Application Service shall be capable of requesting fault notification and performance degradation data from :<br>a. Site Fault Management Applications<br>b. EBnet<br>c. ASTER<br>d. NOAA(SAA)<br>e. Landsat(MMO)<br>f. NSI<br>g. NOLAN | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | ESN-0800#B | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |

| | | | SMC-4310#B | The SMC shall perform fault analysis including, at a minimum:<br>a. Isolation<br>b. Location<br>c. Identification<br>d. Characterization |
|---|---|---|---|---|
| C-MSS-60180 | A | The MSS EMC Fault Management Application Service shall be capable of receiving summarized fault notification and performance degradation data from:<br>a.        Site fault management applications<br>b.        Other external systems as defined in Section 5.1. | EOSD1710#A | ECS elements shall exchange with  ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| C-MSS-60181 | B | The MSS EMC Fault Management Application Service shall be capable of receiving summarized fault notification and performance degradation data from:<br>a. Site fault management applications<br>b. EBnet<br>c. ASTER<br>d. NOAA(SAA)<br>e. Landsat(MMO)<br>f. NSI<br>g. NOLAN | EOSD1710#B | ECS elements shall exchange with  ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| C-MSS-60190 | IR1 | The MSS Fault Management Application Service shall use the Logging Services to record each detected fault. | SMC-4315#Ir1 | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |

| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
|---|---|---|---|---|
| | | | SMC-4315#B | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | SMC-4315#A | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-60200 | IR1 | The MSS Fault Management Application Service shall have the capability to generate the following types of notifications for detected faults :<br>a. a change in the color of an icon on a display<br>b. a message in a pop-up notification window<br>c. logging the following fault information to a disk log file:<br>1. fault type<br>2. date and time of occurrence of the fault<br>3. identification of the source of the notification (e.g. IP address, process name, etc.)<br>4. fault data received with the notification<br>5. operator-defined descriptive text<br>d. audible alert | SMC-4315#A | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
|---|---|---|---|---|
| | | | SMC-4330#A | SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations. |
| | | | EOSD0500#Ir1 | ECS shall perform the following major functions:<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing |
| | | | SMC-4315#B | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | ESN-0840#A | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
|---|---|---|---|---|
| | | | ESN-0800#A | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
| | | | SMC-4330#B | SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations. |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| | | | ESN-0840#B | The ESN shall have error reporting, event logging and generation of alerts. |
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0800#B | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |

| | | | ESN-0840#Ir1 | The ESN shall have error reporting and event logging. |
|---|---|---|---|---|
| | | | ESN-0800#Ir1 | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0760#Ir1 | The ESN report generation function shall provide, on an interactive and scheduled basis, network configuration, fault and performance management information. |
| | | | SMC-4315#Ir1 | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| C-MSS-60210 | A | The MSS Fault Management Application Service shall maintain a list of external service providers, M&O operators, and applications to be notified in the event that a specified fault is detected. | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-60220 | A | The MSS Fault Management Application Service shall have the capability to send the notification of a fault to registered recipients. | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | SMC-4315#B | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0830#A | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| | | | SMC-4315#A | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0830#B | The ESN shall have the capability to detect and report communications related errors and events both locally and at the ESN network management facility. |
| C-MSS-60230 | A | The MSS Fault Management Application Service shall have the capability of generating a notification within a maximum of five minutes of fault detection. | SMC-0340#B | The SMC shall have the capability of responding to system faults within a maximum of five minutes. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
|---|---|---|---|---|
| | | | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | SMC-0340#A | The SMC shall have the capability of responding to system faults within a maximum of five minutes. |
| C-MSS-60240 | B | The MSS Fault Management Application Service shall have the capability to send ECS system management information to ASTER GDS. | ASTER-1000#B | ECS shall have the capability to send and ASTER GDS shall have the capability to receive ECS system and network management information. |
| C-MSS-60242 | B | The MSS Fault Management Application Service shall have the capability to receive ASTER GDS system management information from ASTER GDS. | ASTER-1010#B | ASTER GDS shall have the capability to send and ECS shall have the capability to receive ASTER GDS system and network management information. |
| C-MSS-60244 | B | The MSS Fault Management Application Service shall have the capability to send ECS network management information to ASTER GDS. | ASTER-1000#B | ECS shall have the capability to send and ASTER GDS shall have the capability to receive ECS system and network management information. |
| C-MSS-60246 | B | The MSS Fault Management Application Service shall have the capability to receive ASTER GDS network management information from ASTER GDS. | ASTER-1010#B | ASTER GDS shall have the capability to send and ECS shall have the capability to receive ASTER GDS system and network management information. |

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## System Management Subsystem L4 to RbR traceability

| C-MSS-60248 | B | The MSS Fault Management Application Service shall have the capability to send requests for ASTER GDS network management information to ASTER GDS. | ASTER-1005#B | ECS shall have the capability to send and ASTER GDS shall have the capability to receive requests for ASTER GDS network management information. |
|---|---|---|---|---|
| C-MSS-60250 | B | The MSS Fault Management Application Service shall have the capability to receive requests for ECS network management information from ASTER GDS. | ASTER-1015#B | ASTER GDS shall have the capability to send and ECS shall have the capability to receive requests for ECS system management information. |
| C-MSS-60252 | B | The MSS Fault Management Application Service shall have the capability to send Network Management information to the SAAs. | NOAA0610#B | The ECS shall have the capability to send and the SAAs shall have the capability to receive Network Management information. |
| C-MSS-60254 | B | The MSS Fault Management Application Service shall have the capability to receive Network Management information from the SAAs. | NOAA0600#B | The SAAs shall have the capability to send and the ECS shall have the capability to receive Network Management information. |
| C-MSS-60260 | B | The MSS Fault Management Application Service shall have the capability to send System Management status to the MMO. | LAND-0120#B | The ECS shall have the capability to send and the MMO shall have the capability to receive system management status. |
| C-MSS-60262 | B | The MSS Fault Management Application Service shall have the capability to receive System Management status from the MMO. | LAND-0130#B | The MMO shall have the capability to send and the ECS shall have the capability to receive system management status. |
| C-MSS-60264 | B | The MSS Fault Management Application Service shall have the capability to receive notification from NSI of faults in NSI's network that may affect the quality of NSI services between ECS and its users. | | |
| C-MSS-60266 | B | The MSS Fault Management Application Service shall have the capability to query from NSI information regarding the following which may affect the quality of NSI services between ECS and it users: a. fault status b. estimated time to repair c. fault resolution | | |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-60268 | B | The MSS Fault Management Application Service shall have the capability to query from NSI periodic summary information about faults that may have affected the quality of NSI services between ECS and its users. | | |
| C-MSS-60278 | B | The MSS Fault Management Application Service shall have the capability to receive, from NOLAN, notification of faults in the NOLAN network that may affect the quality of NOLAN services between ECS and its users. | NI-0430#B | ECS shall have the capability to receive notification of faults in the NOLAN network that may affect the quality of NOLAN services between ECS and its users. |
| C-MSS-60280 | B | The MSS Fault Management Application Service shall have the capability to receive, from NOLAN, information regarding fault status and estimated time to repair or resolve NOLAN faults that may affect the quality of NOLAN services between ECS and its users. | NI-0440#B | ECS shall have the capability to receive information regarding fault status and estimated time to repair or resolve NOLAN faults that may affect the quality of NOLAN services between ECS and its users. |
| C-MSS-60282 | B | The MSS Fault Management Application Service shall have the capability to receive, from NOLAN, periodic summary information about faults that may have affected the quality of NOLAN services between ECS and its users. | NI-0450#B | ECS shall have the capability to receive periodic summary information about faults that may have affected the quality of NOLAN services between ECS and its users. |
| C-MSS-60300 | A | The MSS Fault Management Application Service shall provide the capability to identify routes between selected pairs of hosts on the ESN. | EOSD0730#A | Each ECS element shall be capable of verifying the fidelity of the ECS element interface to:<br>a. Other ECS elements at any time during the lifetime of the ECS<br>b. Entities external to ECS at any time during the lifetime of the ECS |
| | | | ESN-0810#A | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-60301 | B | The MSS Fault Management Application Service shall provide the capability to identify routes between selected pairs of hosts on the EBnet. | EOSD0730#B | Each ECS element shall be capable of verifying the fidelity of the ECS element interface to:<br>a. Other ECS elements at any time during the lifetime of the ECS<br>b. Entities external to ECS at any time during the lifetime of the ECS |
|---|---|---|---|---|
| | | | ESN-0810#B | ESN shall provide the following fault management functions at a minimum:<br>a. detect the occurrence of faults,<br>b. control the collection of fault information, and<br>c. diagnose the probable cause of a detected fault |
| | | | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| C-MSS-60303 | B | The Fault Management Application Service shall have the capability to send diagnostic test requests to the ISS. | SMC-3400#B | The SMC shall generate, as needed, requests for performance testing that includes, at a minimum:<br>a. Resource to be tested<br>b. Test purpose<br>c. Requested test priority<br>d. Required test environment<br>e. Impacts to operations<br>f. Expected test results |
| | | | SMC-4320#B | SMC shall support fault diagnosis testing to include, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing |
| C-MSS-60305 | B | The Fault Management Application Service shall have the capability to receive diagnostic test results from the ISS. | SMC-3400#B | The SMC shall generate, as needed, requests for performance testing that includes, at a minimum:<br>a. Resource to be tested<br>b. Test purpose<br>c. Requested test priority<br>d. Required test environment<br>e. Impacts to operations<br>f. Expected test results |
| | | | SMC-4320#B | SMC shall support fault diagnosis testing to include, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-60310 | IR1 | The MSS Fault Management Application Service shall provide utilities to perform diagnostics and testing of the following for the purpose of fault isolation:<br>      a.    connectivity between pairs of ECS hosts and ECS routers<br>      b.    ability to reach hosts and routers<br>      c.    availability of network services at hosts | ESN-0920#A | The ESN shall provide a set of utilities to perform diagnostic and testing functions for purposes of fault isolation. |
| | | | EOSD0730#A | Each ECS element shall be capable of verifying the fidelity of the ECS element interface to:<br>a. Other ECS elements at any time during the lifetime of the ECS<br>b. Entities external to ECS at any time during the lifetime of the ECS |
| | | | SMC-4325#B | The LSM shall request fault diagnosis testing be performed, including, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing within its element |
| | | | SMC-4325#A | The LSM shall request fault diagnosis testing be performed, including, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing within its element |
| | | | SMC-4325#Ir1 | The LSM shall request fault diagnosis testing be performed, including, at a minimum:<br>b. Resource-to-resource connectivity testing within its element |
| | | | EOSD0730#B | Each ECS element shall be capable of verifying the fidelity of the ECS element interface to:<br>a. Other ECS elements at any time during the lifetime of the ECS<br>b. Entities external to ECS at any time during the lifetime of the ECS |
| | | | ESN-0920#B | The ESN shall provide a set of utilities to perform diagnostic and testing functions for purposes of fault isolation. |
| C-MSS-60320 | A | The MSS Fault Management Application Service shall provide, for selective use as a debugging aid, the capability to perform packet tracing of protocols used in ECS. | EOSD0730#B | Each ECS element shall be capable of verifying the fidelity of the ECS element interface to:<br>a. Other ECS elements at any time during the lifetime of the ECS<br>b. Entities external to ECS at any time during the lifetime of the ECS |
| | | | ESN-1010#A | The ESN shall provide, for selective use as a debugging aid, the capability to perform packet tracing of its supported protocols. |

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| | | | EOSD0730#A | Each ECS element shall be capable of verifying the fidelity of the ECS element interface to:<br>a. Other ECS elements at any time during the lifetime of the ECS<br>b. Entities external to ECS at any time during the lifetime of the ECS |
|---|---|---|---|---|
| | | | ESN-1010#B | The ESN shall provide, for selective use as a debugging aid, the capability to perform packet tracing of its supported protocols. |
| C-MSS-60330 | A | The MSS Fault Management Application Service at each site shall have the capability to perform periodic testing of all ECS communication links at that site to verify that they are operational. | ESN-1030#B | The ESN shall perform periodic testing of alternate communication capabilities to verify that they are operational. |
| | | | SMC-4320#A | SMC shall support fault diagnosis testing to include, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing |
| | | | EOSD0780#A | Each ECS element shall be capable of being monitored during testing. |
| | | | EOSD0730#A | Each ECS element shall be capable of verifying the fidelity of the ECS element interface to:<br>a. Other ECS elements at any time during the lifetime of the ECS<br>b. Entities external to ECS at any time during the lifetime of the ECS |
| | | | SMC-4320#B | SMC shall support fault diagnosis testing to include, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing |
| | | | ESN-1030#A | The ESN shall perform periodic testing of alternate communication capabilities to verify that they are operational. |
| | | | EOSD0730#B | Each ECS element shall be capable of verifying the fidelity of the ECS element interface to:<br>a. Other ECS elements at any time during the lifetime of the ECS<br>b. Entities external to ECS at any time during the lifetime of the ECS |
| | | | EOSD0780#B | Each ECS element shall be capable of being monitored during testing. |
| C-MSS-60340 | IR1 | The MSS Fault Management Application Service shall be capable of verifying the operational status of a host. | SMC-4325#Ir1 | The LSM shall request fault diagnosis testing be performed, including, at a minimum:<br>b. Resource-to-resource connectivity testing within its element |

| | | | SMC-4320#Ir1 | SMC shall support fault diagnosis testing to include, at a minimum:<br>b. Resource-to-resource connectivity testing |
|---|---|---|---|---|
| | | | SMC-4320#B | SMC shall support fault diagnosis testing to include, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing |
| | | | SMC-4325#B | The LSM shall request fault diagnosis testing be performed, including, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing within its element |
| | | | SMC-4320#A | SMC shall support fault diagnosis testing to include, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing |
| | | | SMC-4325#A | The LSM shall request fault diagnosis testing be performed, including, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing within its element |
| C-MSS-60350 | A | The MSS Fault Management Application Service shall have the capability to periodically execute diagnostic tests in order to isolate, characterize and identify a fault. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD0780#B | Each ECS element shall be capable of being monitored during testing. |
| | | | SMC-4315#B | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | SMC-4325#B | The LSM shall request fault diagnosis testing be performed, including, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing within its element |

## System Management Subsystem L4 to RbR traceability

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| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | SMC-4315#A | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | SMC-4325#A | The LSM shall request fault diagnosis testing be performed, including, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing within its element |
| | | | EOSD0780#A | Each ECS element shall be capable of being monitored during testing. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| C-MSS-60360 | A | The MSS Fault Management Application Service shall provide the capability to execute vendor diagnostics in order to diagnose faults traced to hardware equipment. | SMC-4325#A | The LSM shall request fault diagnosis testing be performed, including, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing within its element |
| | | | SMC-4325#B | The LSM shall request fault diagnosis testing be performed, including, at a minimum:<br>a. Software and hardware tolerance testing<br>b. Resource-to-resource connectivity testing within its element |

## System Management Subsystem L4 to RbR traceability

| C-MSS-60370 | IR1 | The MSS Fault Management Application Service at the SMC shall be capable of sending gathered isolation, location, identification and characterization of reported faults data to the level of subsystem and equipment to the following:<br> a. the site Fault Management Applications<br> b. other external systems as defined in Section 5.1 of the current version of 304-CD-003. | SMC-4310#A | The SMC shall perform fault analysis including, at a minimum:<br>a. Isolation<br>b. Location<br>c. Identification<br>d. Characterization |
|---|---|---|---|---|
| | | | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| | | | SMC-4311#A | The SMC shall have the capability to perform fault analysis to the level of, at a minimum:<br>a. Subsystem<br>b. Equipment |
| | | | SMC-4310#Ir1 | The SMC shall perform fault analysis including, at a minimum:<br>a. Isolation<br>b. Location<br>c. Identification<br>d. Characterization |
| | | | SMC-4311#Ir1 | he SMC shall have the capability to perform fault analysis to the level of, at a minimum:<br>a. Subsystem<br>b. Equipment |

## System Management Subsystem L4 to RbR traceability

| C-MSS-60371 | B | The MSS Fault Management Application Service at the SMC shall be capable of sending gathered isolation, location, identification and characterization of reported faults data to the level of subsystem and equipment to the following:<br>a. Site Fault Management Applications<br>b. EBnet<br>c. ASTER<br>b. NOAA(SAA)<br>e. Landsat (MMO)<br>f. NSI<br>g. NOLAN. | SMC-4310#B | The SMC shall perform fault analysis including, at a minimum:<br>a. Isolation<br>b. Location<br>c. Identification<br>d. Characterization |
|---|---|---|---|---|
| | | | SMC-4311#B | The SMC shall have the capability to perform fault analysis to the level of, at a minimum:<br>a. Subsystem<br>b. Equipment |
| | | | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| C-MSS-60380 | IR1 | The MSS Fault Management Application Service at the sites shall isolate, locate, and identify faults, identify subsystem, equipment and software faults, and identify the nature of the faults detected within its site. | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0760#Ir1 | The ESN report generation function shall provide, on an interactive and scheduled basis, network configuration, fault and performance management information. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-4315#Ir1 | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | SMC-4315#A | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | SMC-4315#B | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | ESN-0760#A | The ESN report generation function shall  provide, on an interactive  and scheduled basis, accounting,  network configuration, fault and performance management information. |
| | | | IMS-1760#A | The IMS shall  send detected hardware faults to the SMC, to include at a minimum:<br>a. IMS processors<br>b. IMS network interfaces<br>c. Storage devices |
| C-MSS-60390 | A | The MSS Fault Management Application Service at the sites shall, for faults detected within its site, isolate, locate, and identify faults to the level of:<br>    a.     subsystem<br>    b.     equipment<br>    c.     software | EOSD4100#A | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| | | | IMS-1760#B | The IMS shall  send detected hardware faults to the SMC, to include at a minimum:<br>a. IMS processors<br>b. IMS network interfaces<br>c. Storage devices |

| | | | IMS-1760#A | The IMS shall send detected hardware faults to the SMC, to include at a minimum:<br>a. IMS processors<br>b. IMS network interfaces<br>c. Storage devices |
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| | | | EOSD4100#B | The ECS segments, elements, and components shall include the on-line (operational mode) and off-line (test mode) fault detection and isolation capabilities required to achieve the specified operational availability requirements. |
| C-MSS-60395 | A | The MSS Fault Management Application Service shall be capable of retrieving records of detected fault. | SMC-4315#B | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| | | | SMC-4315#A | The LSM shall, at a minimum, isolate, locate, and identify faults, identify subsystem, equipment, and software faults, and identify the nature of the faults within its element. |
| C-MSS-60400 | A | The MSS Fault Management Application Service shall support, maintain, and update system fault management policies and procedures, to include:<br>    a.    Fault Identification<br>    b.    Fault priorities<br>    c.    Recovery or corrective actions | SMC-4300#B | The SMC shall support, maintain, and update system fault management policies and procedures including, at a minimum:<br>a. Fault identification<br>b. Fault priorities<br>c. Recovery or corrective actions |
| | | | SMC-4305#B | The LSM shall maintain fault management policies and procedures for its element. |
| C-MSS-60410 | A | The MSS Site Fault Management Application Service shall have the capability to receive Fault Management Policies and Procedures from the EMC. | SMC-4300#A | The SMC shall support, maintain, and update system fault management policies and procedures including, at a minimum:<br>a. Fault identification<br>b. Fault priorities<br>c. Recovery or corrective actions |
| | | | SMC-4305#A | The LSM shall maintain fault management policies and procedures for its element. |
| | | | SMC-4305#B | The LSM shall maintain fault management policies and procedures for its element. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-4300#B | The SMC shall support, maintain, and update system fault management policies and procedures including, at a minimum:<br>a. Fault identification<br>b. Fault priorities<br>c. Recovery or corrective actions |
| C-MSS-60420 | A | The MSS Fault Management Application Service shall interface with the MSS Configuration Management Application Service and schedule a change in the configuration of the site when such a change in the configuration of the site is deemed necessary to recover from a fault. | SMC-4330#B | SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations. |
| | | | SMC-4335#B | The LSM shall generate fault recovery commands, directives, and instructions within its element. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0650#A | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | SMC-4330#A | SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations. |
| | | | SMC-4335#A | The LSM shall generate fault recovery commands, directives, and instructions within its element. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |

| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility: a. Network Configuration Management b. Network Fault Management c. Network Performance Management d. Network Security Management |
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| C-MSS-60500 | IR1 | The MSS EMC Fault Management Application Service shall coordinate the recovery from conditions of performance degradation and faults with the sites and external network service providers. | EOSD3000#B | The ECS shall provide for security safeguards to cover unscheduled system shutdown (aborts) and subsequent restarts, as well as for scheduled system shutdown and operational startup. |
| | | | SMC-3390#Ir1 | The SMC shall generate alert indicators of fault or degraded conditions. |
| | | | SMC-3390#A | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | SMC-3390#B | The SMC shall generate alert indicators of fault or degraded conditions with the corrective actions. |
| | | | EOSD3000#A | The ECS shall provide for security safeguards to cover unscheduled system shutdown (aborts) and subsequent restarts, as well as for scheduled system shutdown and operational startup. |
| C-MSS-60510 | A | The MSS EMC Fault Management Application Service at the SMC shall coordinate, as necessary via directives and instructions, the recovery from faults reported from a site. | SMC-4330#B | SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations. |
| | | | SMC-4330#A | SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations. |
| C-MSS-60520 | A | The MSS Fault Management Application Service shall provide the capability to allow the specification and execution of action routines in response to the notification of a fault. | SMC-4330#A | SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations. |
| | | | SMC-4335#A | The LSM shall generate fault recovery commands, directives, and instructions within its element. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-4330#B | SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations. |
| | | | SMC-4335#B | The LSM shall generate fault recovery commands, directives, and instructions within its element. |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |
| | | | EOSD3000#A | The ECS shall provide for security safeguards to cover unscheduled system shutdown (aborts) and subsequent restarts, as well as for scheduled system shutdown and operational startup. |
| | | | EOSD0500#A | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD3000#B | The ECS shall provide for security safeguards to cover unscheduled system shutdown (aborts) and subsequent restarts, as well as for scheduled system shutdown and operational startup. |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |

| | | | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
|---|---|---|---|---|
| C-MSS-60530 | A | The MSS Fault Management Application Service shall provide the capability to pass parameters to action routines. | SMC-4330#B | SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations. |
| | | | SMC-4335#B | The LSM shall generate fault recovery commands, directives, and instructions within its element. |
| | | | SMC-4330#A | SMC shall have the capability to generate fault recovery commands, directives, and instructions to sites and elements except for faults directly related to flight operations. |
| | | | SMC-4335#A | The LSM shall generate fault recovery commands, directives, and instructions within its element. |
| C-MSS-60540 | A | The MSS Fault Management Application Service shall utilize office automation support tools for the generation of directives and instructions for recovery from faults within its site. | SMC-4335#A | The LSM shall generate fault recovery commands, directives, and instructions within its element. |
| | | | SMC-4335#B | The LSM shall generate fault recovery commands, directives, and instructions within its element. |
| C-MSS-60600 | IR1 | The MSS Fault Management Application Service shall have the capability to generate, on an interactive and on a scheduled basis, reports on performance/error data that it has been configured to collect. | SMC-8840#Ir1 | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>c. Resource utilization |
| | | | PGS-0370#A | The PGS shall utilize the LSM to generate a PGS resource utilization report. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-8710#A | The SMC shall have the capability to generate summary configuration status reports that includes, at a minimum: a. Current status of all hardware, system and scientific software b. Reason why item not currently operational. |
| | | | SMC-3415#A | The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum: a. Operational status b. Performance of a particular resource c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-8840#A | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum: a. Resource availability b. Reason for down time c. Resource utilization d. Ability of resource to meet performance criteria e. Short and long-term trend analysis and capacity planning results |
| | | | PGS-0370#B | The PGS shall utilize the LSM to generate a PGS resource utilization report. |
| | | | SMC-8860#A | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum: a. Fault type and description b. Time of occurrence of fault c. Effect on system d. Status of fault resolution e. Fault statistics |
| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | SMC-3415#B | The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum: a. Operational status b. Performance of a particular resource c. Maintenance activities (e.g., number of repairs per item) |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-8710#B | The SMC shall have the capability to generate summary and detailed configuration status reports that includes, at a minimum:<br>a. Current status of all hardware, system and scientific software<br>b. Reason why item not currently operational. |
|---|---|---|---|---|
| | | | SMC-8860#B | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| | | | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| | | | PGS-0370#Ir1 | The PGS shall utilize the LSM to generate a PGS resource utilization report. |
| | | | SMC-3415#Ir1 | The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | ESN-0760#Ir1 | The ESN report generation function shall provide, on an interactive and scheduled basis, network configuration, fault and performance management information. |
| | | | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| C-MSS-60610 | A | The MSS Fault Management Application Service shall have the capability to build histories for different types of errors and events detected, for the purpose of analysis. | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |

| | | | ESN-1000#B | |
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| | | | | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical. |
| | | | ESN-1000#A | |
| | | | | The ESN network management function shall have the capability to build histories for different types of errors and events, and the capability to analyze errors and recommend corrective action wherever practical. |
| | | | ESN-0760#A | |
| | | | | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | EOSD0500#A | |
| | | | | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | EOSD0500#B | |
| | | | | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| C-MSS-60620 | IR1 | The MSS Fault Management Application Service shall have the capability to redirect reports to:<br>a. console<br>b. disk file<br>c. printer | ESN-0775#A | |
| | | | | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |

## System Management Subsystem L4 to RbR traceability

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| | | | ESN-0775#B | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| | | | ESN-0775#Ir1 | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| C-MSS-66000 | IR1 | The MSS performance management application service shall be capable of monitoring the performance of the following ECS components<br>a.    network components<br>      1. routers<br>      2. links<br>      3. bridges<br>      4. gateways | PGS-0430#Ir1 | The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements. |
| | | | ESN-0210#Ir1 | The ESN management function shall have a capability to obtain status on specific data flows to assure the successful operation of ESN. |
| | | | ESN-0620#Ir1 | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services |
| | | | PGS-0430#A | The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements. |
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

| | | | SMC-3320#A | The SMC shall monitor execution of ground operations events. |
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| | | | SMC-3315#A | The LSM shall monitor its elements schedule and execution of events. |
| | | | SMC-3385#A | The LSM shall evaluate system  performance against the ESDIS project established performance criteria. |
| | | | SMC-3380#A | The SMC shall evaluate overall system performance. |
| | | | SMC-3335#A | The LSM shall compare and evaluate its elements actual schedule performance against planned schedule performance. |
| | | | SMC-3330#A | The SMC shall compare and evaluate system-wide, site, and element actual schedule performance against planned schedule performance. |
| | | | SMC-3325#A | The LSM shall monitor execution of ground operations events. |
| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |
| | | | ESN-0620#A | The ESN shall include a network management function to monitor and control the ESN. |

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## System Management Subsystem L4 to RbR traceability

| | | | ESN-0210#A | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products, to assure the successful operation of ESN. |
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| C-MSS-66001 | B | The MSS performance management application service shall be capable of monitoring the performance of the following ECS components<br>a. network components<br>   1. routers<br>   2. links<br>   3. bridges<br>   4. gateways<br>b. hosts<br>c. operating systems<br>d. peripherals<br>e. data<br>f. ECS applications. | EOSD0500#B | ECS shall perform the following major functions:<br>a. EOS Mission Planning and Scheduling<br>b. EOS Mission Operations<br>c. Command and Control<br>d. Communications and Networking<br>e. Data Input<br>f. Data Processing<br>g. Data Storage<br>h. Data Distribution<br>i. Information Management<br>j. End-to-End Fault Management<br>k. System Management |
| | | | ESN-0620#B | The ESN shall include a network management function to monitor and control the ESN. |
| | | | ESN-0010#B | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
| | | | SMC-3315#B | The LSM shall monitor its elements schedule and execution of events. |
| | | | SMC-3385#B | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| | | | SMC-3380#B | The SMC shall evaluate overall system performance. |
| | | | SMC-3325#B | The LSM shall monitor execution of ground operations events. |

| | | | SMC-3330#B | |
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| | | | | The SMC shall compare and evaluate system-wide, site, and element actual schedule performance against planned schedule performance. |
| | | | SMC-3320#B | |
| | | | | The SMC shall monitor execution of ground operations events. |
| | | | SMC-3335#B | |
| | | | | The LSM shall compare and evaluate its elements actual schedule performance against planned schedule performance. |
| | | | ESN-0210#B | |
| | | | | The ESN management function shall have a capability to obtain status on specific data flows such as expedited data products to assure the successful operation of ESN. |
| | | | PGS-0430#B | |
| | | | | The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements. |
| | | | SMC-3305#B | |
| | | | | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode |
| | | | SMC-3300#B | |
| | | | | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: a. On-line b. Failed c. In maintenance d. In test mode e. In simulation mode |
| C-MSS-66010 | IR1 | The MSS performance management application service shall be capable of monitoring ECS component protocol stack performance parameters defined in IETF RFC 1213. | ESN-0650#Ir1 | |
| | | | | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility: a. Network Configuration Management b. Network Fault Management c. Network Performance Management d. Network Security Management |

| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol  stack implemented in  any ECS element, and each communications facility: <br> a. Network Configuration Management <br> b. Network Fault Management <br> c. Network Performance Management <br> d. Network Security Management |
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| | | | ESN-0740#B | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0650#A | The ESN shall perform the following network management functions for each protocol  stack implemented in  any ECS element, and each communications facility: <br> a. Network Configuration Management <br> b. Network Fault Management <br> c. Network Performance Management <br> d. Network Security Management |
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| C-MSS-66020 | IR1 | The MSS Performance Management Application Service shall be capable of monitoring ethernet-like device performance parameters as specified in IETF RFC 1623. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d.  In test mode <br> e.  In simulation mode |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
| | | | SMC-8840#Ir1 | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum: <br> c. Resource utilization |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
|---|---|---|---|---|
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-66030 | IR1 | The MSS performance management application service shall be capable of receiving managed object definitions for each managed object. | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | SMC-8840#Ir1 | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>c. Resource utilization |
| C-MSS-66040 | IR1 | The MSS performance management application service shall be capable of specifying which available performance metrics are to be gathered from each individual managed object. | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | PGS-0370#Ir1 | The PGS shall utilize the LSM to generate a PGS resource utilization report. |
| | | | SMC-3380#Ir1 | The SMC shall evaluate overall system performance. |
| | | | SMC-3380#B | The SMC shall evaluate overall system performance. |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |

| | | | PGS-0370#A | The PGS shall utilize the LSM to generate a PGS resource utilization report. |
|---|---|---|---|---|
| | | | SMC-3380#A | The SMC shall evaluate overall system performance. |
| | | | PGS-0370#B | The PGS shall utilize the LSM to generate a PGS resource utilization report. |
| C-MSS-66050 | IR1 | The MSS performance management application service shall be capable of requesting performance data from each individual managed object:<br>a.       at configurable intervals<br>b.       on demand. | PGS-0370#A | The PGS shall utilize the LSM to generate a PGS resource utilization report. |
| | | | SMC-3380#A | The SMC shall evaluate overall system performance. |
| | | | SMC-3385#A | The LSM shall evaluate system  performance against the ESDIS project established performance criteria. |
| | | | PGS-0370#Ir1 | The PGS shall utilize the LSM to generate a PGS resource utilization report. |
| | | | SMC-3380#Ir1 | The SMC shall evaluate overall system performance. |
| | | | PGS-0370#B | The PGS shall utilize the LSM to generate a PGS resource utilization report. |
| | | | SMC-3380#B | The SMC shall evaluate overall system performance. |
| | | | SMC-3385#B | The LSM shall evaluate system  performance against the ESDIS project established performance criteria. |
| | | | ESN-0740#A | The ESN network management service shall  retrieve  performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0780#A | The network elements including the Internet  interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including  the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance  statistics |

## *System Management Subsystem L4 to RbR traceability*

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|---|---|---|---|---|
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0780#B | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| C-MSS-66060 | IR1 | The MSS performance management application service shall be capable of receiving requested performance data from ECS components. | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0780#B | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0780#A | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| | | | SMC-3385#B | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| | | | SMC-8840#Ir1 | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>c. Resource utilization |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-3385#A | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
|---|---|---|---|---|
| C-MSS-66070 | A | The MSS Performance Management Application Service shall be capable of receiving unrequested performance data from ECS managed objects. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

## System Management Subsystem L4 to RbR traceability

| C-MSS-66080 | IR1 | The MSS performance management application service shall be capable of retrieving the following data for all network component interfaces:<br>a.    operational status<br>b.    type<br>c.    speed<br>d.    octets in/out<br>e.    packets in/out<br>f.    discards in/out<br>g.    errors in/out | ESN-0790#Ir1 | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
|---|---|---|---|---|
| | | | ESN-0780#B | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | PGS-0430#Ir1 | The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements. |
| | | | ESN-0790#A | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |

| | | | ESN-0780#A | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
|---|---|---|---|---|
| | | | PGS-0430#A | The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements. |
| | | | PGS-0430#B | The PGS shall utilize the LSM to monitor and account for data and information transfer between it and other EOSDIS elements. |
| C-MSS-66090 | A | The MSS Performance Management Application Service shall have the capability to collect the following performance information about communication protocol stacks on managed devices:<br>a. number of transport layer messages received with errors<br>b. number of transport layer messages requiring retransmission<br>c. number of transport layer messages received that could not be delivered<br>d. number of jetwork layer messages received with errors<br>e. number of network layer messages received that could not be delivered<br>f. number of network layer messages that were discarded | ESN-0650#B | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0740#B | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
| | | | ESN-0650#A | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0740#A | The ESN network management service shall retrieve performance/fault data about ESN protocol stacks and equipment. |
|---|---|---|---|---|
| C-MSS-66100 | IR1 | The MSS performance management application service shall be capable of retrieving the following data for all hosts:<br>a. total CPU utilization<br>b. memory utilization<br>c. physical disk i/o's<br>d. disk storage size<br>e. disk storage used<br>f. number of active processes<br>g. length of run queue<br>h. network i/o's (packets)<br>i. network errors | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3385#A | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| | | | SMC-8840#Ir1 | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>c. Resource utilization |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3385#B | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| C-MSS-66120 | IR1 | The MSS performance management application service shall be capable of determining the operational state of all network components, hosts, and peripherals to be:<br>a. on-line<br>b. off-line<br>c. in test mode | ESN-1060#Ir1 | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |

## *System Management Subsystem L4 to RbR traceability*

| | | | SMC-3300#Ir1 | |
|---|---|---|---|---|
| | | | | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | ESN-0790#Ir1 | |
| | | | | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information. |
| | | | EOSD0780#A | |
| | | | | Each ECS element shall be capable of being monitored during testing. |
| | | | ESN-0790#A | |
| | | | | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem, and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-1060#A | |
| | | | | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | EOSD0780#Ir1 | |
| | | | | Each ECS element shall be capable of being monitored during testing. |
| | | | SMC-3300#A | |
| | | | | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

## *System Management Subsystem L4 to RbR traceability*

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| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| C-MSS-66121 | B | The MSS performance management application service shall be capable of determining the operational state of all network components, hosts, and peripherals to be:<br>a. on-line<br>b. off-line<br>c. in test mode<br>d. In maintenance,<br>e. in simulation mode. | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d.  In test mode<br>e.  In simulation mode |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | EOSD0780#B | Each ECS element shall be capable of being monitored during testing. |
| | | | ESN-0790#B | The ESN shall include the following configuration management functions at a minimum:<br>a. collect information describing the state of the network subsystem and its communications resources,<br>b. exercise control over the configuration, parameters, and resources of the subsystem,  and over the information collected,<br>c. store the configuration information collected, and<br>d. display the configuration information |
| | | | ESN-1060#B | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-66123 | B | The MSS Performance Management Application Service shall generate requests for performance testing that identify the required resources, purpose, requested priority, required environment, operations impacts and expected results. | SMC-3397#B | The LSM shall generate, as needed, requests for performance testing, including, at a minimum:<br>a. Resource to be tested<br>b. Test purpose<br>c. Requested test priority<br>d. Required test environment<br>e. Impacts to operations<br>f. Expected test results |
| --- | --- | --- | --- | --- |
| | | | SMC-3400#B | The SMC shall generate, as needed, requests for performance testing that includes, at a minimum:<br>a. Resource to be tested<br>b. Test purpose<br>c. Requested test priority<br>d. Required test environment<br>e. Impacts to operations<br>f. Expected test results |
| C-MSS-66130 | IR1 | The MSS performance management application service shall be capable of receiving operational state change notifications from network components, hosts, applications, and peripherals. | SMC-1000#A | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources. These APIs shall provide mechanisms for:<br>a. Capturing, by an application, of management data<br>b. Exchanging management data between a managed application and its management agent<br>c. Exchanging management data between a management agent and the LSM<br>d. Performing analyses and generating reports using management data |
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |
| | | | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed<br>c. In maintenance<br>d. In test mode<br>e. In simulation mode |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum: <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d.  In test mode <br> e.  In simulation mode |
| | | | SMC-1000#B | The SMC shall provide application programming interfaces (APIs) for the monitoring and control of managed resources.  These APIs shall provide mechanisms for: <br> a. Capturing, by an application, of management data <br> b. Exchanging management data between a managed application and its management agent <br> c. Exchanging management data between a management agent and the LSM <br> d. Performing analyses and generating reports using management data |
| | | | ESN-1060#A | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-1060#B | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-1060#Ir1 | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: <br> a. On-line <br> b. Failed |

## System Management Subsystem L4 to RbR traceability

| C-MSS-66135 | A | The MSS Performance Management Application Service shall have the capability to calculate the following statistics for the purpose of supporting RMA analysis for managed objects:<br>a. Mean Down time (MDT)<br>b. Mean Time Between Maintenance (MTBM)<br>    1. Mean Time Between Preventive Maintenance (MTBPM)<br>    2. Mean Time Between Corrective Maintenance (MTBCM)<br>c. Mean Time to Repair (MTTR) | EOSD3490#B | Reliability statistics for ECS shall be collected and monitored using the Mean Time Between Maintenance (MTBM) for each component and operational capability. |
|---|---|---|---|---|
| | | | EOSD3620#B | ECS shall predict and periodically assess maintainability by measuring the actual MDT and comparing to the required MDT. |
| | | | EOSD3625#B | For ECS functions with a backup capability, ECS shall use switchover time to the backup capability in measuring maintainability, rather than down time, when the component goes down. |
| | | | EOSD3610#A | The Maintainability Status Report shall be based on MIL-STD-470A, Maintainability Program for Systems and Equipment, Task 104 and shall include any changes in the  MTBM predictions. |
| | | | EOSD3615#A | The Maintainability Status Report shall also include data on items specified for maintainability reporting in GSFC 420-05-03. |
| | | | EOSD3610#B | The Maintainability Status Report shall be based on MIL-STD-470A, Maintainability Program for Systems and Equipment, Task 104 and shall include any changes in the  MTBM predictions. |
| | | | EOSD3615#B | The Maintainability Status Report shall also include data on items specified for maintainability reporting in GSFC 420-05-03. |
| | | | EOSD3625#A | For ECS functions with a backup capability, ECS shall use switchover time to the backup capability in measuring maintainability, rather than down time, when the component goes down. |
| | | | EOSD3490#A | Reliability statistics for ECS shall be collected and monitored using the Mean Time Between Maintenance (MTBM) for each component and operational capability. |

## System Management Subsystem L4 to RbR traceability

| | | | EOSD3620#A | ECS shall predict and periodically assess maintainability by measuring the actual MDT and comparing to the required MDT. |
|---|---|---|---|---|
| C-MSS-66137 | A | The MSS Performance Management Application Service shall retain the calculated RMA statistics in a repository accessible for further analysis by the M&O Staff. | EOSD3492#A | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | EOSD3610#A | The Maintainability Status Report shall be based on MIL-STD-470A, Maintainability Program for Systems and Equipment, Task 104 and shall include any changes in the  MTBM predictions. |
| | | | EOSD3615#A | The Maintainability Status Report shall also include data on items specified for maintainability reporting in GSFC 420-05-03. |
| | | | EOSD3615#B | The Maintainability Status Report shall also include data on items specified for maintainability reporting in GSFC 420-05-03. |
| | | | EOSD3610#B | The Maintainability Status Report shall be based on MIL-STD-470A, Maintainability Program for Systems and Equipment, Task 104 and shall include any changes in the  MTBM predictions. |
| | | | EOSD3492#B | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| C-MSS-66140 | A | The MSS EMC Performance Management Application Service shall have the capability to request performance data from:<br>a. Site performance management applications<br>b. Other external systems as defined in Section 5.1 of the current version od 304-CD-003. | EOSD1710#A | ECS elements shall exchange with  ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |

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| C-MSS-66141 | B | The MSS EMC Performance Management Application Service shall have the capability to request performance data from:<br>a. Site performance management applications<br>b. EBnet<br>c. ASTER<br>d. NOAA(SAA)<br>e. Landsat(MMO)<br>f. NSI<br>g. NOLAN. | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| C-MSS-66150 | A | The MSS EMC Performance Management Application Service shall be capable of receiving performance data from:<br>a. Site performance management applications<br>b. Other external systems as defined in Section 5.1 of the current version of 304-CD-003. | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| C-MSS-66151 | B | The MSS EMC Performance Management Application Service shall be capable of receiving performance data from:<br>a. Site performance management applications<br>b. EBnet<br>c. ASTER<br>d. NOAA(SAA)<br>e. Landsat(MMO)<br>f. NSI<br>g. NOLAN. | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
| C-MSS-66160 | A | The MSS EMC Performance Management Application Service shall be capable of receiving summarized performance data from:<br>a. Site performance management applications<br>b. Other external systems as defined in Section 5.1 of the current version 304-CD-003. | EOSD1710#A | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |

## System Management Subsystem L4 to RbR traceability

| C-MSS-66161 | B | The MSS EMC Performance Management Application Service shall be capable of receiving summarized performance data from:<br>a. Site performance management applications<br>b. EBnet<br>c. ASTER<br>d. NOAA(SAA)<br>e. Landsat(MMO)<br>f. NSI<br>g. NOLAN. | EOSD1710#B | ECS elements shall exchange with ADCs/ODCs, such as NOAA and other data processing and archiving facilities, information including the following:<br>a. Directories<br>b. Product Orders<br>c. Order Status<br>d. Science Data<br>e. Management Data |
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| C-MSS-66170 | IR1 | The MSS performance management application service shall log ECS performance data pertaining to ECS network components and operating system resources. | SMC-8840#Ir1 | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>c. Resource utilization |
| | | | ESN-0750#A | The ESN shall provide statistical processing capabilities to allow extraction and tabulation of network performance data. |
| | | | SMC-3340#A | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| | | | SMC-3345#A | The LSM shall perform quality assurance for its site/elements performance as well as programmatic areas that includes, at a minimum:<br>a. Quality testing, benchmarks and audits for element enhancement implementations<br>b. Quality checking and audits of products processed and delivered<br>c. Quality testing and audits of element resource performance, |
| C-MSS-66171 | B | The MSS performance management application service shall log ECS performance data pertaining to ECS network components, ECS applications and operating system resources. | ESN-0750#B | The ESN shall provide statistical processing capabilities to allow extraction and tabulation of network performance data. |

| | | | SMC-3340#B | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
|---|---|---|---|---|
| | | | SMC-3345#B | The LSM shall perform quality assurance for its site/elements performance as well as programmatic areas that includes, at a minimum:<br>a. Quality testing, benchmarks and audits for element enhancement implementations<br>b. Quality checking and audits of products processed and delivered<br>c. Quality testing and audits of element resource performance, |
| C-MSS-66180 | IR1 | The MSS performance management application service shall have the capability to generate the following types of statistics for a configurable period of time for performance data stored in the Management Database:<br>a.     average<br>b.     median<br>c.     maximum<br>d.     minimum<br>e.     ratios<br>f.     rates<br>g.     standard deviations. | SMC-8800#A | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
| | | | SMC-8820#A | The SMC shall have the capability to generate detailed and summary reports indicating the product generation status  made in processing, reprocessing, and storage of all standard products. |
| | | | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |

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| | | | SMC-8820#B | The SMC shall have the capability to generate detailed and summary reports indicating the product generation status made in processing, reprocessing, and storage of all standard products. |
| | | | ESN-0750#A | The ESN shall provide statistical processing capabilities to allow extraction and tabulation of network performance data. |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-0750#B | The ESN shall provide statistical processing capabilities to allow extraction and tabulation of network performance data. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| C-MSS-66190 | IR1 | The MSS performance management application service shall provide a configurable number of thresholds for each performance metric. | SMC-3370#Ir1 | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | ESN-1060#B | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |

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| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1060#Ir1 | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-1060#A | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | SMC-3370#A | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3370#B | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| C-MSS-66200 | IR1 | The MSS EMC performance management application service shall be capable of creating a list of suggested initial threshold values for each performance metric. | SMC-3370#A | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3370#B | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | ESN-1060#A | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |
| | | | ESN-1060#Ir1 | The ESN  performance management function shall provide the capability to evaluate the performance  of ESN  resources and interconnection activities. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1060#B | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
|---|---|---|---|---|
| | | | SMC-3370#Ir1 | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| C-MSS-66210 | A | The MSS EMC performance management application service shall be capable of sending a list of suggested initial thresholds for each performance metric to the MSS site performance management application service. | SMC-3355#B | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| | | | SMC-3355#A | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| C-MSS-66220 | A | The MSS site performance management application service shall be capable of receiving a list of suggested initial thresholds for each performance metric from the MSS EMC performance management application service. | SMC-3355#A | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| | | | SMC-3355#B | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| C-MSS-66230 | IR1 | The MSS performance management application service shall allow each performance metric threshold to be configurable. | ESN-1060#B | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1060#Ir1 | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1060#A | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
|---|---|---|---|---|
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | SMC-3355#B | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| | | | SMC-3370#B | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3370#Ir1 | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3355#A | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |

## System Management Subsystem L4 to RbR traceability

| | | | | |
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| | | | SMC-3370#A | For each performance parameter, the SMC shall have the capability of establishing multiple levels of thresholds to include, at a minimum: <br> a. On/off <br> b. Pass/fail <br> c. Various levels of degradation |
| C-MSS-66240 | IR1 | The MSS performance management application service shall be capable of evaluating each performance metric against defined thresholds. | SMC-3355#A | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum: <br> a. On/off <br> b. Pass/fail <br> c. Various levels of degradation |
| | | | SMC-3355#B | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum: <br> a. On/off <br> b. Pass/fail <br> c. Various levels of degradation |
| | | | ESN-1060#A | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-1090#A | The ESN shall provide the capability to control the communications performance parameters of the network. |
| | | | ESN-1060#Ir1 | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |
| | | | ESN-1060#B | The ESN performance management function shall provide the capability to evaluate the performance of ESN resources and interconnection activities. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1090#B | The ESN shall provide the capability to control the communications performance parameters of the network. |
|---|---|---|---|---|
| C-MSS-66250 | IR1 | The MSS performance management application service shall record an event in the local History Log whenever a threshold is crossed. | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | SMC-3340#B | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| | | | SMC-3345#B | The LSM shall perform quality assurance for its site/elements performance as well as programmatic areas that includes, at a minimum:<br>a. Quality testing, benchmarks and audits for element enhancement implementations<br>b. Quality checking and audits of products processed and delivered<br>c. Quality testing and audits of element resource performance, |

| | | | SMC-3355#B | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
|---|---|---|---|---|
| | | | SMC-3375#B | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3340#A | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| | | | SMC-3345#A | The LSM shall perform quality assurance for its site/elements performance as well as programmatic areas that includes, at a minimum:<br>a. Quality testing, benchmarks and audits for element enhancement implementations<br>b. Quality checking and audits of products processed and delivered<br>c. Quality testing and audits of element resource performance, |
| | | | SMC-3375#A | For each limit checked parameter, the LSM (including those thresholds directed by the SMC) shall have the capability of evaluating multiple levels of thresholds including, at a minimum:<br>a. On/off<br>b. Pass/fail<br>c. Various levels of degradation |
| | | | SMC-3355#A | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
| C-MSS-66260 | IR1 | The MSS performance management application service shall provide queries that generate performance statistics from performance data stored in the Management Database. | ESN-0750#B | The ESN shall provide statistical processing capabilities to allow extraction and tabulation of network performance data. |

| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
|---|---|---|---|---|
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0750#A | The ESN shall provide statistical processing capabilities to allow extraction and tabulation of network performance data. |
| C-MSS-66270 | IR1 | The MSS performance management application service shall store generated performance statistics. | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
|---|---|---|---|---|
| C-MSS-66280 | A | The MSS site performance management application service shall be capable of extracting summarized site status information from logged performance data. | SMC-3380#A | The SMC shall evaluate overall system performance. |
| | | | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
| | | | SMC-8820#B | The SMC shall have the capability to generate detailed and summary reports indicating the product generation status  made in processing, reprocessing, and storage of all standard products. |
| | | | SMC-8800#A | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-8820#A | The SMC shall have the capability to generate detailed and summary reports indicating the product generation status  made in processing, reprocessing, and storage of all standard products. |
|---|---|---|---|---|
| | | | SMC-3380#B | The SMC shall evaluate overall system performance. |
| C-MSS-66290 | A | The MSS site performance management application service shall be capable of sending summarized status information for that site to the MSS EMC performance management application service. | SMC-3380#B | The SMC shall evaluate overall system performance. |
| | | | SMC-3380#A | The SMC shall evaluate overall system performance. |
| C-MSS-66300 | A | The MSS EMC performance management application service shall log received summarized site status. | SMC-3410#A | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum: a. Operational status b. Performance of a particular resource c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3410#B | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum: a. Operational status b. Performance of a particular resource c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3415#B | The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum: a. Operational status b. Performance of a particular resource c. Maintenance activities (e.g., number of repairs per item) |

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## System Management Subsystem L4 to RbR traceability

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| | | | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
| | | | SMC-3415#A | The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3350#A | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
| C-MSS-66305 | A | The MSS Performance Management Application Service shall be capable of collecting the following performance data for all ECS-managed processes:<br>a. start time<br>b. stop time<br>c. CPU utilization<br>d. memory utilization<br>e. disk reads<br>f. disk writes | SMC-3385#B | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| | | | SMC-3385#A | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-66310 | IR1 | The MSS performance management application service shall be capable of retrieving the following science algorithm performance data via the Management Data Access Service:<br>a. algorithm name<br>b. algorithm version<br>c. start time<br>d. stop time<br>e. CPU utilization<br>f. memory utilization<br>g. disk reads<br>h. disk writes | SMC-3355#A | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |
|---|---|---|---|---|
| | | | SMC-3385#A | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| | | | SMC-8820#A | The SMC shall have the capability to generate detailed and summary reports indicating the product generation status made in processing, reprocessing, and storage of all standard products. |
| | | | SMC-8800#A | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS. At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
| | | | SMC-3385#B | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| | | | SMC-3355#B | The LSM shall implement the performance criteria from SMC (including parametric limits and operational threshold levels) for evaluating element resource performance. |

| | | | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS. At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
|---|---|---|---|---|
| | | | SMC-8820#B | The SMC shall have the capability to generate detailed and summary reports indicating the product generation status made in processing, reprocessing, and storage of all standard products. |
| C-MSS-66320 | A | The MSS Performance Management Application Service shall be capable of receiving the following performance data from the Data Server:<br>a. total order volume<br>b. average elapsed time for Data Server events | SMC-3385#A | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| | | | SMC-3385#B | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| C-MSS-66330 | A | The MSS Performance Management Application Service shall be capable of receiving the following performance data from Data Processing:<br>a. number of products generated<br>b. product run times<br>c. product CPU times | SMC-3385#B | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| | | | SMC-3385#A | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |

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## System Management Subsystem L4 to RbR traceability

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| C-MSS-66340 | A | The MSS Performance Management Application Service shall be capable of receiving the following performance data from Ingest:<br>a. ingest volumes<br>b. processing times<br>c. no. of completed requests<br>d. no. of unsuccessful requests | SMC-3385#A | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| | | | SMC-3385#B | The LSM shall evaluate system performance against the ESDIS project established performance criteria. |
| C-MSS-66500 | B | The MSS Performance Management Application Service shall have the capability to send ECS system management information to ASTER GDS. | ASTER-1000#B | ECS shall have the capability to send and ASTER GDS shall have the capability to receive ECS system and network management information. |
| C-MSS-66505 | B | The MSS Performance Management Application Service shall have the capability to receive ASTER GDS system management information from ASTER GDS. | ASTER-1010#B | ASTER GDS shall have the capability to send and ECS shall have the capability to receive ASTER GDS system and network management information. |
| C-MSS-66510 | B | The MSS Performance Management Application Service shall have the capability to send ECS network management information to ASTER GDS. | ASTER-1000#B | ECS shall have the capability to send and ASTER GDS shall have the capability to receive ECS system and network management information. |
| C-MSS-66515 | B | The MSS Performance Management Application Service shall have the capability to receive ASTER GDS network management information from ASTER GDS. | ASTER-1010#B | ASTER GDS shall have the capability to send and ECS shall have the capability to receive ASTER GDS system and network management information. |
| C-MSS-66520 | B | The MSS Performance Management Application Service shall have the capability to send requests for ASTER GDS network management information to ASTER GDS. | ASTER-1005#B | ECS shall have the capability to send and ASTER GDS shall have the capability to receive requests for ASTER GDS network management information. |
| C-MSS-66525 | B | The MSS Performance Management Application Service shall have the capability to receive requests for ECS network management information from ASTER GDS. | ASTER-1015#B | ASTER GDS shall have the capability to send and ECS shall have the capability to receive requests for ECS system management information. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-66530 | B | The MSS Performance Management Application Service shall have the capability to send Network Management information to the SAAs. | NOAA0610#B | The ECS shall have the capability to send and the SAAs shall have the capability to receive Network Management information. |
|---|---|---|---|---|
| C-MSS-66535 | B | The MSS Performance Management Application service shall have the capability to receive Network Management information from the SAAs. | NOAA0600#B | The SAAs shall have the capability to send and the ECS shall have the capability to receive Network Management information. |
| C-MSS-66550 | B | The MSS Performance Management Application Service shall have the capability to send System Management status to the MMO. | LAND-0120#B | The ECS shall have the capability to send and the MMO shall have the capability to receive system management status. |
| C-MSS-66555 | B | The MSS Performance Management Application Service shall have the capability to receive System Management status from the MMO. | LAND-0130#B | The MMO shall have the capability to send and the ECS shall have the capability to receive system management status. |
| C-MSS-66560 | B | The MSS Performance Management Application Service shall have the capability to query from NSI periodic reports of link utilization and transmission errors, reflecting or summarizing NSI performance measurements over various time intervals. | | |
| C-MSS-66585 | B | The MSS Performance Management Application Service shall have the capability to receive, from NOLAN, periodic information regarding NOLAN network performance and link utilization. | NI-0460#B | ECS shall have the capability to receive periodic information regarding NOLAN network performance and link utilization. |
| C-MSS-67000 | A | The MSS performance management application service shall be capable of extracting values of performance metrics gathered for a specified managed objects over a configurable period of time from the Management Database. | ESN-1065#B | The ESN performance management function shall include trend analysis for prediction of loading and bottlenecks/delays. |
| | | | SMC-3410#A | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |

*System Management Subsystem L4 to RbR traceability*

| | | | SMC-3415#B | The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
|---|---|---|---|---|
| | | | SMC-3420#B | The SMC shall perform short and long term trend analysis of system, site, and element performance to determine the impact on resources of, at a minimum:<br>a. Modifying system, site, or element activity allocations<br>b. Potential enhancements to system, site, or element |
| | | | SMC-3410#B | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3415#A | The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3420#A | The SMC shall perform short and long term trend analysis of system, site, and element performance to determine the impact on resources of, at a minimum:<br>a. Modifying system, site, or element activity allocations<br>b. Potential enhancements to system, site, or element |
| | | | ESN-1065#A | The ESN performance management function shall include trend analysis for prediction of loading and bottlenecks/delays. |
| C-MSS-67010 | A | The MSS performance management application service shall be capable of generating a graph of the extracted performance metric values. | ESN-1065#A | The ESN performance management function shall include trend analysis for prediction of loading and bottlenecks/delays. |
| | | | SMC-3410#A | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |

## System Management Subsystem L4 to RbR traceability

| | | | | |
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| | | | SMC-3420#B | The SMC shall perform short and long term trend analysis of system, site, and element performance to determine the impact on resources of, at a minimum:<br>a. Modifying system, site, or element activity allocations<br>b. Potential enhancements to system, site, or element |
| | | | SMC-3415#B | The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3410#B | The SMC shall perform short and long-term trend analysis of system, site, and element performance to include, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3415#A | The LSM shall perform short and long-term trend analysis of element performance, including, at a minimum:<br>a. Operational status<br>b. Performance of a particular resource<br>c. Maintenance activities (e.g., number of repairs per item) |
| | | | SMC-3420#A | The SMC shall perform short and long term trend analysis of system, site, and element performance to determine the impact on resources of, at a minimum:<br>a. Modifying system, site, or element activity allocations<br>b. Potential enhancements to system, site, or element |
| | | | ESN-1065#B | The ESN performance management function shall include trend analysis for prediction of loading and bottlenecks/delays. |
| C-MSS-68000 | IR1 | The MSS performance management application service shall be capable of graphically displaying the operational state of managed objects through the MUI service. | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0800#B | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |

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| | | | ESN-0800#Ir1 | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0760#Ir1 | The ESN report generation function shall provide, on an interactive and scheduled basis, network configuration, fault and performance management information. |
| | | | SMC-3300#Ir1 | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum:<br>a. On-line<br>b. Failed |
| | | | SMC-3305#Ir1 | The LSM shall monitor its elementÍs hardware, and scientific and system software status to determine their operational states including, at a minimum :<br>a. On-line<br>b. Failed |
| | | | ESN-0800#A | The ESN shall be capable of displaying the local network configuration status related to each system locally, and for all systems at the ESN network management facility. |
| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

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# System Management Subsystem L4 to RbR traceability

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| | | | SMC-3300#A | The SMC shall monitor site and element hardware status to determine their operational states including, at a minimum: <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
| | | | SMC-3305#A | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
| | | | SMC-3305#B | The LSM shall monitor its elements hardware, and scientific and system software status to determine their operational states including, at a minimum : <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
| | | | SMC-3300#B | The SMC shall monitor site and element hardware, and scientific and system software status to determine their operational states including, at a minimum: <br> a. On-line <br> b. Failed <br> c. In maintenance <br> d. In test mode <br> e. In simulation mode |
| | | | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: <br><br> b). Science Algorithm Integration |
| C-MSS-68010 | IR1 | The MSS performance management application service shall be capable of displaying M&O staff-selected performance statistics through the MUI in tabular and graphical formats. | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of: <br><br> b). Science Algorithm Integration |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-3340#A | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
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| | | | SMC-3345#B | The LSM shall perform quality assurance for its site/elements performance as well as programmatic areas that includes, at a minimum:<br>a. Quality testing, benchmarks and audits for element enhancement implementations<br>b. Quality checking and audits of products processed and delivered<br>c. Quality testing and audits of element resource performance, |
| | | | SMC-3340#B | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| | | | SMC-3345#A | The LSM shall perform quality assurance for its site/elements performance as well as programmatic areas that includes, at a minimum:<br>a. Quality testing, benchmarks and audits for element enhancement implementations<br>b. Quality checking and audits of products processed and delivered<br>c. Quality testing and audits of element resource performance, |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

## System Management Subsystem L4 to RbR traceability

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| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0780#A | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0760#Ir1 | The ESN report generation function shall provide, on an interactive and scheduled basis, network configuration, fault and performance management information. |
| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |

## *System Management Subsystem L4 to RbR traceability*

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| | | | ESN-0780#B | The network elements including the Internet  interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including  the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance  statistics |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| C-MSS-68020 | IR1 | The MSS performance management application service shall be capable of printing M&O staff-selected performance  statistics. | ESN-0760#B | The ESN report generation function shall  provide, on an interactive  and scheduled basis, accounting,  network configuration, fault and performance management information. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0780#B | The network elements including the Internet  interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including  the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance  statistics |
| | | | ESN-0760#Ir1 | The ESN report generation function shall  provide, on an interactive and scheduled basis,  network configuration, fault and performance management information. |

## System Management Subsystem L4 to RbR traceability

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| | | | ESN-1070#Ir1 | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics |
| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0780#A | The network elements including the Internet interfaces, shall have the capability to report, periodically and on an interactive basis , network statistics to the ESN network management function, including the following information:<br>a. Network round trip delay<br>b. Network reset and restart indications<br>c. Outages and CRC errors<br>d. Performance statistics |
| | | | SMC-3340#A | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| | | | SMC-3345#A | The LSM shall perform quality assurance for its site/elements performance as well as programmatic areas that includes, at a minimum:<br>a. Quality testing, benchmarks and audits for element enhancement implementations<br>b. Quality checking and audits of products processed and delivered<br>c. Quality testing and audits of element resource performance, |

| | | | SMC-3345#B | The LSM shall perform quality assurance for its site/elements performance as well as programmatic areas that includes, at a minimum:<br>a. Quality testing, benchmarks and audits for element enhancement implementations<br>b. Quality checking and audits of products processed and delivered<br>c. Quality testing and audits of element resource performance, |
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| | | | SMC-3340#B | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| C-MSS-68030 | A | The MSS performance management application service shall be capable of receiving system resource utilization information requests from the SDPS Data Processing subsystem via the Management Agent Service. | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| | | | SMC-8840#A | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| C-MSS-68040 | A | The MSS performance management application service shall be capable of providing the following current system resource utilization information to the SDPS Data Processing subsystem via Management Agent Service:<br>a.　　CPU utilization<br>b.　　memory utilization<br>c.　　disk i/o's (per second) | SMC-8840#A | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
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| C-MSS-68050 | A | The MSS performance management application service shall be capable of receiving resource utilization information requests from the SDPS Data Server subsystems via Management Agent Service. | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| | | | SMC-8840#A | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| C-MSS-68060 | A | The MSS performance management application service shall be capable of providing the following current resource utilization information to the SDPS Data Server subsystem via the Management Agent Service:<br>a.    CPU utilization<br>b.    memory utilization<br>c.    disk I/O's (per second) | SMC-8840#A | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| | | | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |

## System Management Subsystem L4 to RbR traceability

| C-MSS-68070 | A | The MSS performance management application service shall be capable of receiving resource utilization information requests from the SDPS Client subsystem via the Management Agent Service. | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
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| | | | SMC-8840#A | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| C-MSS-68080 | A | The MSS performance management application service shall be capable of providing the following current resource utilization information to the SDPS Client subsystem via the Management Agent Service.<br>a.     CPU utilization<br>b.     memory utilization<br>c.     disk I/O's (per second) | SMC-8840#A | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| | | | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| C-MSS-68090 | A | The MSS Performance Management Application Service shall have the capability to generate reports from collected management data. | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0770#A | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |

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| | | | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
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| | | | ESN-0770#B | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| C-MSS-68100 | IR1 | The MSS Performance Management Application Service shall have the capability to redirect reports to:<br>a.　　console<br>b.　　disk file<br>c.　　printer | ESN-0775#A | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| | | | ESN-0775#Ir1 | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| | | | ESN-0775#B | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| C-MSS-69000 | A | The MSS performance management application service shall maintain operational benchmark test procedures. | SMC-3340#B | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| | | | SMC-3340#A | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| C-MSS-69010 | A | The MSS performance management application service shall receive and maintain operational benchmark test results. | SMC-3345#A | The LSM shall perform quality assurance for its site/elements performance as well as programmatic areas that includes, at a minimum:<br>a. Quality testing, benchmarks and audits for element enhancement implementations<br>b. Quality checking and audits of products processed and delivered<br>c. Quality testing and audits of element resource performance, |

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| | | | SMC-3345#B | The LSM shall perform quality assurance for its site/elements performance as well as programmatic areas that includes, at a minimum:<br>a. Quality testing, benchmarks and audits for element enhancement implementations<br>b. Quality checking and audits of products processed and delivered<br>c. Quality testing and audits of element resource performance, |
| C-MSS-69020 | A | The MSS performance management application service shall be capable of performing operational benchmark tests. | SMC-3340#B | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| | | | ESN-0815#A | Network simulation and traffic modeling capability shall be provided to troubleshoot network problems and to use in network planning. |
| | | | ESN-0815#B | Network simulation and traffic modeling capability shall be provided to troubleshoot network problems and to use in network planning. |
| | | | SMC-3340#A | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| C-MSS-69030 | A | The MSS performance management application service shall be capable of providing results of benchmark tests and results of predefined tests to the M&O staff for validation. | SMC-3340#B | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |

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| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
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| | | | ESN-0815#A | Network simulation and traffic modeling capability shall be provided to troubleshoot network problems and to use in network planning. |
| | | | ESN-0815#B | Network simulation and traffic modeling capability shall be provided to troubleshoot network problems and to use in network planning. |
| | | | SMC-3340#A | The SMC shall perform quality assurance for the overall ECS performance as well as programmatic areas that include, at a minimum:<br>a. System quality testing, benchmarks, and audits for system enhancement implementations<br>b. System quality checking and audits of products processed and delivered<br>c. Quality testing and audits of site and element resource performance. |
| C-MSS-70010 | IR1 | The MSS Security Management Application Service shall provide the capability to create, modify and delete user accounts with the following attributes:<br>a. username<br>b. password<br>c. group identification code<br>d. user identification code<br>e. login directory<br>f. command line interpreter | SMC-5320#A | The SMC shall establish, maintain, and authenticate access privileges for ECS scientific users. |
| | | | SMC-5325#A | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses and privileges. |
| C-MSS-70020 | IR1 | The MSS Security Management Application Service shall enable the assignment of user accounts to groups based on the group identification code. | SMC-5320#A | The SMC shall establish, maintain, and authenticate access privileges for ECS scientific users. |
| | | | SMC-5325#A | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses and privileges. |

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| C-MSS-70100 | IR1 | The MSS site Security Management Application Service shall provide the capability to set, maintain, and update access control information for ECS resources. | EOSD2430#B | Data base access and manipulation shall accommodate control of user access and update of security controlled data. |
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| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | SMC-5325#Ir1 | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses and privileges. |
| | | | ESN-0650#A | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | EOSD2100#A | The ECS technical security policy planning shall be comprehensive and shall cover at least the following areas:<br>a. Applicability of the C2 Level of Trustedness as defined by the NSA<br>b. Applicability of the C2 Object Reuse capability<br>c. Discretionary control and monitoring of user access<br>d. ECS communications, network access, control, and monitoring<br>e. Computer system "virus" monitoring, detection, and remedy<br>f. Data protection controls<br>g. Account/privilege management and user session tailoring<br>h. Restart/recovery<br>i. Security audit trail generation<br>j. Security analysis and reporting<br>k. Risk analysis |

| | | | EOSD2100#B | The ECS technical security policy planning shall be comprehensive and shall cover at least the following areas:<br>a. Applicability of the C2 Level of Trustedness as defined by the NSA<br>b. Applicability of the C2 Object Reuse capability<br>c. Discretionary control and monitoring of user access<br>d. ECS communications, network access, control, and monitoring<br>e. Computer system "virus" monitoring, detection, and remedy<br>f. Data protection controls<br>g. Account/privilege management and user session tailoring<br>h. Restart/recovery<br>i. Security audit trail generation<br>j. Security analysis and reporting<br>k. Risk analysis |
|---|---|---|---|---|
| | | | EOSD2430#A | Data base access and manipulation shall accommodate control of user access and update of security controlled data. |
| C-MSS-70110 | A | The MSS site Security Management Application Service shall provide the capability to specify privileges for authorized users and user groups for access to ECS resources. | SMC-5325#B | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses and privileges. |
| | | | ESN-0650#A | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork Interface Services<br>i. Bulletin Board Service |
| | | | SMC-5325#A | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses and privileges. |

| | | | EOSD2430#A | Data base access and manipulation shall accommodate control of user access and update of security controlled data. |
|---|---|---|---|---|
| | | | EOSD2430#B | Data base access and manipulation shall accommodate control of user access and update of security controlled data. |
| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility: a. Network Configuration Management b. Network Fault Management c. Network Performance Management d. Network Security Management |
| | | | ESN-0010#B | ESN shall provide the following standard services: a. Data Transfer and Management Services b. Electronic Messaging Service c. Remote Terminal Service d. Process to Process Communication Service e. Directory and User Access Control Service f. Network Management Service g. Network Security and Access Control Service h. Internetwork Interface Services i. Bulletin Board Service |
| C-MSS-70120 | IR1 | The MSS site Security Management Application service shall provide the mechanism, for each ECS host, to allow or deny incoming requests from specific hosts to services. | ESN-0010#B | ESN shall provide the following standard services: a. Data Transfer and Management Services b. Electronic Messaging Service c. Remote Terminal Service d. Process to Process Communication Service e. Directory and User Access Control Service f. Network Management Service g. Network Security and Access Control Service h. Internetwork Interface Services i. Bulletin Board Service |
| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility: a. Network Configuration Management b. Network Fault Management c. Network Performance Management d. Network Security Management |

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| | | | ESN-0010#Ir1 | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services |
|---|---|---|---|---|
| | | | ESN-0650#Ir1 | The ESN shall perform the following network management functions for each protocol  stack implemented in  any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | SMC-5325#Ir1 | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses  and  privileges. |
| | | | ESN-1430#B | The ESN shall provide the following security event functions:<br>a. Event detection<br>b. Event reporting<br>c. Event logging |
| | | | SMC-5325#A | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses  and  privileges. |
| | | | SMC-5325#B | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses  and  privileges. |
| | | | ESN-0010#A | ESN shall provide the following standard services:<br>a. Data Transfer and Management Services<br>b. Electronic Messaging Service<br>c. Remote Terminal Service<br>d. Process to Process Communication Service<br>e. Directory and User Access Control Service<br>f. Network Management Service<br>g. Network Security and Access Control Service<br>h. Internetwork  Interface Services<br>i. Bulletin Board Service |

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| | | | EOSD2100#B | The ECS technical security policy planning shall be comprehensive and shall cover at least the following areas:<br>a. Applicability of the C2 Level of Trustedness as defined by the NSA<br>b. Applicability of the C2 Object Reuse capability<br>c. Discretionary control and monitoring of user access<br>d. ECS communications, network access, control, and monitoring<br>e. Computer system "virus" monitoring, detection, and remedy<br>f. Data protection controls<br>g. Account/privilege management and user session tailoring<br>h. Restart/recovery<br>i. Security audit trail generation<br>j. Security analysis and reporting<br>k. Risk analysis |
| | | | EOSD2100#A | The ECS technical security policy planning shall be comprehensive and shall cover at least the following areas:<br>a. Applicability of the C2 Level of Trustedness as defined by the NSA<br>b. Applicability of the C2 Object Reuse capability<br>c. Discretionary control and monitoring of user access<br>d. ECS communications, network access, control, and monitoring<br>e. Computer system "virus" monitoring, detection, and remedy<br>f. Data protection controls<br>g. Account/privilege management and user session tailoring<br>h. Restart/recovery<br>i. Security audit trail generation<br>j. Security analysis and reporting<br>k. Risk analysis |
| | | | ESN-0650#A | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-1430#A | The ESN shall provide the following security event functions:<br>a. Event detection<br>b. Event reporting<br>c. Event logging |

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| C-MSS-70130 | IR1 | The MSS site Security Management Application Service shall provide a command line interface and a GUI for the management of the following security databases:<br>a.     Authentication Database<br>b.     Authorization Database<br>c.     Network Database | EOSD1703#Ir1 | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br><br>b). Science Algorithm Integration |
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| | | | SMC-5320#A | The SMC shall establish, maintain, and authenticate access privileges for ECS scientific users. |
| | | | SMC-5325#A | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses and privileges. |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | SMC-5320#B | The SMC shall establish, maintain, and authenticate access privileges for ECS scientific users. |
| | | | SMC-5325#B | The LSM shall promulgate, maintain, authenticate, and monitor user and device accesses and privileges. |

## System Management Subsystem L4 to RbR traceability

| | | | ESN-0650#A | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
|---|---|---|---|---|
| | | | ESN-0650#Ir1 | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| | | | ESN-0650#B | The ESN shall perform the following network management functions for each protocol stack implemented in any ECS element, and each communications facility:<br>a. Network Configuration Management<br>b. Network Fault Management<br>c. Network Performance Management<br>d. Network Security Management |
| C-MSS-70300 | IR1 | The MSS site Security Management Application Service shall have the capability to perform the following types of security tests:<br>a. password auditing<br>b. file system integrity checking<br>c. auditing of user privileges<br>d. auditing of resource access control information | EOSD2550#B | The ECS elements shall limit use of master passwords or use of a single password for large organizations requiring access to a mix of security controlled and non-sensitive data. |
| | | | EOSD2660#B | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |
| | | | SMC-5335#Ir1 | The LSM shall perform security testing that includes, at a minimum, password auditing and element internal access/privileges checking. |
| | | | SMC-5335#B | The LSM shall perform security testing that includes, at a minimum, password auditing and element internal access/privileges checking. |
| | | | EOSD2660#A | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |

| | | | SMC-5335#A | The LSM shall perform security testing that includes, at a minimum, password auditing and element internal access/privileges checking. |
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| | | | EOSD2550#A | The ECS elements shall limit use of master passwords or use of a single password for large organizations requiring access to a mix of security controlled and non-sensitive data. |
| C-MSS-70310 | A | The MSS site Security Management Application Service shall have the capability to perform security testing on a periodic and on an interactive basis. | EOSD2660#B | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |
| | | | SMC-5335#A | The LSM shall perform security testing that includes, at a minimum, password auditing and element internal access/privileges checking. |
| | | | SMC-5335#B | The LSM shall perform security testing that includes, at a minimum, password auditing and element internal access/privileges checking. |
| | | | EOSD2660#A | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |
| C-MSS-70320 | A | The MSS site Security Management Application Service shall have the capability to send the results of the tests to the EMC Security Management Application Service. | SMC-5335#B | The LSM shall perform security testing that includes, at a minimum, password auditing and element internal access/privileges checking. |
| | | | EOSD2660#A | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |
| | | | SMC-5335#A | The LSM shall perform security testing that includes, at a minimum, password auditing and element internal access/privileges checking. |
| | | | EOSD2660#B | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |
| C-MSS-70330 | A | The MSS EMC Security Management Application Service shall have the capability to request, support, coordinate and maintain security testing for sites. | EOSD2660#B | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |

| | | | SMC-5330#A | The SMC shall provide support, manage, maintain, and request security testing that includes, at a minimum, password checking and control of site and element internal privileges. |
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| | | | SMC-5330#B | The SMC shall provide support, manage, maintain, and request security testing that includes, at a minimum, password checking and control of site and element internal privileges. |
| | | | EOSD2660#A | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |
| C-MSS-70340 | A | The MSS EMC Security Management Application Service shall have the capability to request security testing of the sites on a scheduled and an interactive basis | SMC-5330#B | The SMC shall provide support, manage, maintain, and request security testing that includes, at a minimum, password checking and control of site and element internal privileges. |
| | | | EOSD2660#A | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |
| | | | SMC-5330#A | The SMC shall provide support, manage, maintain, and request security testing that includes, at a minimum, password checking and control of site and element internal privileges. |
| | | | EOSD2660#B | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |
| C-MSS-70350 | A | The MSS EMC Security Management Application Service shall have the capability to receive the results of security tests performed at the sites. | EOSD2660#B | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |
| | | | SMC-5330#A | The SMC shall provide support, manage, maintain, and request security testing that includes, at a minimum, password checking and control of site and element internal privileges. |
| | | | SMC-5330#B | The SMC shall provide support, manage, maintain, and request security testing that includes, at a minimum, password checking and control of site and element internal privileges. |
| | | | EOSD2660#A | ECS elements shall at all times maintain and comply with the security directives issued by the SMC. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-70400 | A | The MSS EMC Security Management Application Service shall have the capability to receive notifications of security events from the site Security Management Application Services. | SMC-5340#B | The SMC shall perform security risk analyses and compromise detection. |
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| | | | EOSD2710#A | ECS elements shall report all detected computer viruses and actions taken to the SMC. |
| | | | EOSD2650#A | ECS elements shall report detected security violations to the SMC. |
| | | | SMC-5340#A | The SMC shall perform security risk analyses and compromise detection. |
| | | | EOSD2650#B | ECS elements shall report detected security violations to the SMC. |
| | | | EOSD2710#B | ECS elements shall report all detected computer viruses and actions taken to the SMC. |
| C-MSS-70410 | A | The MSS EMC Security Management Application Service shall have the capability to receive security audit trails from the site Security Management Application Services. | SMC-5340#A | The SMC shall perform security risk analyses and compromise detection. |
| | | | SMC-5340#B | The SMC shall perform security risk analyses and compromise detection. |
| C-MSS-70420 | A | The MSS EMC Security Management Application Service shall have the capability to analyze security audit trails for the purpose of detecting intrusions. | SMC-5340#B | The SMC shall perform security risk analyses and compromise detection. |
| | | | SMC-5340#A | The SMC shall perform security risk analyses and compromise detection. |
| C-MSS-70430 | A | The MSS site Security Management Application Service shall provide the capability to designate a user or a group of users to receive a notification upon the detection of an intrusion, virus or worm. | EOSD2650#B | ECS elements shall report detected security violations to the SMC. |
| | | | EOSD2710#B | ECS elements shall report all detected computer viruses and actions taken to the SMC. |

| | | | SMC-5345#A | The LSM shall perform compromise (e.g., virus or worm penetration) risk analysis, and detection. |
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| | | | SMC-5345#B | The LSM shall perform compromise (e.g., virus or worm penetration) risk analysis, and detection. |
| | | | EOSD2710#A | ECS elements shall report all detected computer viruses and actions taken to the SMC. |
| | | | EOSD2650#A | ECS elements shall report detected security violations to the SMC. |
| C-MSS-70440 | A | The MSS site Security Management Application Service shall provide the capability to notify designated M&O staff(s) upon the detection of an intrusion, virus or worm. | SMC-5345#B | The LSM shall perform compromise (e.g., virus or worm penetration) risk analysis, and detection. |
| | | | EOSD2710#A | ECS elements shall report all detected computer viruses and actions taken to the SMC. |
| | | | SMC-5345#A | The LSM shall perform compromise (e.g., virus or worm penetration) risk analysis, and detection. |
| | | | EOSD2710#B | ECS elements shall report all detected computer viruses and actions taken to the SMC. |
| C-MSS-70450 | A | The MSS site Security Management Application Service shall have the capability to detect the following types of intrusions:<br>a.    Login failures<br>b.    Unauthorized access to ECS resources<br>c.    Break-ins<br>d.    Viruses and worms | SMC-5345#A | The LSM shall perform compromise (e.g., virus or worm penetration) risk analysis, and detection. |
| | | | SMC-5345#B | The LSM shall perform compromise (e.g., virus or worm penetration) risk analysis, and detection. |
| C-MSS-70460 | A | The MSS site Security Management Application Service shall have the capability of generating a notification within a maximum of five minutes of the detection of an intrusion. | SMC-0350#B | The SMC shall have the capability of responding to security compromises within a maximum of five minutes. |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-0350#A | The SMC shall have the capability of responding to security compromises within a maximum of five minutes. |
| C-MSS-70470 | B | The MSS Security Management Application Service shall have the capability to send ECS system management information to ASTER GDS. | ASTER-1000#B | ECS shall have the capability to send and ASTER GDS shall have the capability to receive ECS system and network management information. |
| C-MSS-70472 | B | The MSS Security Management Application Service shall have the capability to receive ASTER GDS system management information from ASTER GDS. | ASTER-1010#B | ASTER GDS shall have the capability to send and ECS shall have the capability to receive ASTER GDS system and network management information. |
| C-MSS-70474 | B | The MSS Security Management Application Service shall have the capability to send System Management status to the MMO. | LAND-0120#B | The ECS shall have the capability to send and the MMO shall have the capability to receive system management status. |
| C-MSS-70476 | B | The MSS Security Management Application Service shall have the capability to receive System Management status from the MMO. | LAND-0130#B | The MMO shall have the capability to send and the ECS shall have the capability to receive system management status. |
| C-MSS-70478 | B | The MSS Security Management Application Service  shall have the capability to send to NSI, notification of security breaches at ECS facilities that could affect NSI and other EOSDIS sites. | | |
| C-MSS-70480 | B | The MSS Security Management Application Service shall have the capability to receive from NSI, notification of security breaches at NSI sites or within the NSI network that could potentially affect ECS sites. | | |
| C-MSS-70482 | B | The MSS Security Management Application Service shall have the capability to send to NOLAN, notifications of security breaches at ECS facilities that could affect NOLAN and other EOSDIS sites. | NI-0480#B | ECS shall have the capability to send to NOLAN notifications of security breaches at ECS facilities that could affect NOLAN and other EOSDIS sites. |

| C-MSS-70484 | B | The MSS Security Management Application Service shall have the capability to receive, from NOLAN, notifications of security breaches at NOLAN sites or within the NOLAN network that could potentially affect ECS sites. | NI-0470#B | ECS shall have the capability to receive notifications of security breaches at NOLAN sites or within the NOLAN network that could potentially affect ECS sites. |
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| C-MSS-70500 | A | The MSS EMC Security Management Application Service shall have the capability to coordinate with the site Security Management Application Services, via directives and instructions, the recovery from security compromises. | EOSD2990#B | The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system. |
| | | | SMC-5350#B | The SMC shall have the capability to initiate recovery procedures in response to a detected security compromise. |
| | | | EOSD2990#A | The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system. |
| | | | SMC-5350#A | The SMC shall have the capability to initiate recovery procedures in response to a detected security compromise. |
| C-MSS-70510 | A | The MSS site Security Management Application Service shall, upon the detection of a compromise, isolate the compromised input I/O, and the compromised area's output I/O until the compromise has been eliminated. | SMC-5355#A | The LSM shall isolate the compromised area, detach the compromised input I/O, and the compromised areas output I/O until the compromise has been eliminated. |
| | | | SMC-5355#B | The LSM shall isolate the compromised area, detach the compromised input I/O, and the compromised areas output I/O until the compromise has been eliminated. |
| | | | EOSD2990#A | The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system. |

| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
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| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD2990#B | The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system. |
| C-MSS-70515 | B | The MSS Security Management Application Service shall have the capability to manage encrypted information, including keys. | SMC-5360#B | SMC shall have the capability to manage encrypted information, including keys. |
| C-MSS-70520 | IR1 | The MSS EMC Security Management Application Service shall provide office automation support tools to enable the generation of directives and instructions for recovery from detected security events. | SMC-5365#A | The LSM shall generate recovery actions in response to the detection of compromises. |
| | | | SMC-5365#Ir1 | The LSM shall generate recovery actions in response to the detection of compromises. |
| | | | SMC-5365#B | The LSM shall generate recovery actions in response to the detection of compromises. |
| | | | EOSD2990#A | The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system. |
| | | | EOSD2990#B | The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system. |

# System Management Subsystem L4 to RbR traceability

| C-MSS-70530 | A | The MSS EMC Security Management Application Service shall coordinate, as necessary via directives and instructions, the recovery from security events reported from a site. | EOSD2990#B | The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system. |
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| | | | SMC-5365#B | The LSM shall generate recovery actions in response to the detection of compromises. |
| | | | EOSD2990#A | The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system. |
| | | | SMC-5365#A | The LSM shall generate recovery actions in response to the detection of compromises. |
| C-MSS-70600 | B | The EMC Security Management Application Service shall maintain security policies and procedures to include physical security, password management, operational security, data security, privileges, network security and compromise mitigation. | SMC-5300#B | The SMC shall, in conjunction with sites and elements, establish, support, maintain, and update security policies and procedures to include, at a minimum: a. Physical security b. Password management c. Operational security d. Data security e. Privileges f. Network security g. Compromise mitigation |
| C-MSS-70700 | IR1 | The MSS Security Management Application Service shall have the capability to generate intrusion reports on the following: a. Login failures b. Unauthorized access to ECS resources c. Break-ins d. Viruses and worms | SMC-8880#A | The SMC shall have the capability to generate detailed and summary security compromise reports indicating security compromises of ground resources and facilities, including, at a minimum: a. Security compromise type and description b. Time of occurrence c. Cause of security compromise d. Impact on system e. Status of security compromise resolution f. Security compromise statistics g. Results of security compromise risk analysis |

| | | | SMC-8880#B | The SMC shall have the capability to generate detailed and summary security compromise reports indicating security compromises of ground resources and facilities, including, at a minimum:<br>a. Security compromise type and description<br>b. Time of occurrence<br>c. Cause of security compromise<br>d. Impact on system<br>e. Status of security compromise resolution<br>f. Security compromise statistics<br>g. Results of security compromise risk analysis |
|---|---|---|---|---|
| | | | SMC-8880#Ir1 | The SMC shall have the capability to generate detailed and summary security compromise reports indicating security compromises of ground resources and facilities, including, at a minimum:<br>a. Security compromise type and description<br>b. Time of occurrence |
| C-MSS-70710 | IR1 | The MSS Security Management Application Service shall have the capability to generate reports from collected management data. | ESN-0760#B | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0775#B | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| | | | ESN-0760#A | The ESN report generation function shall provide, on an interactive and scheduled basis, accounting, network configuration, fault and performance management information. |
| | | | ESN-0775#A | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| | | | SMC-8840#Ir1 | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>c. Resource utilization |
| C-MSS-70720 | IR1 | The MSS Security Management Application Service shall have the capability to redirect reports to:<br>a.      console<br>b.      disk file<br>c.      printer | SMC-8840#Ir1 | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>c. Resource utilization |

| | | | ESN-0775#B | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
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| | | | ESN-0775#A | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| C-MSS-75000 | A | The MSS accountability management service shall provide the capability to maintain a user profile database that stores the following information for each registered user:<br>a. Name<br>b. User ID<br>c. Password information<br>    1. password<br>    2. password expiration date<br><br>d. Assigned privileges<br>e. Mailing address<br>f. Telephone number<br>g. Product shipping address<br>h. E-mail address<br>i. Organization (optional)<br>j. Project affiliation(s) (optional)<br>    1. project name<br>    2. project principal investigator<br>k. User group<br>l. Account information<br>    1. creation date<br>    2. expiration date<br>m. Restrictions<br>    1. time of day<br>    2. location<br>    3. type of service | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-75001 | B | The MSS accountability management service shall provide the capability to maintain a user profile database that stores the following information for each registered user:<br>a. Name<br>b. User ID<br>c. Password information<br> 1. password<br> 2. password expiration date<br>d. Assigned privileges<br>e. Mailing address<br>f. Telephone number<br>g. Product shipping address<br>h. E-mail address<br>i. Organization (optional) j. Project affiliation(s) (optional)<br> 1. project name<br> 2. project principal investigator<br>k. User group<br>l. Account information<br> 1. creation date<br> 2. expiration date<br>m. Restrictions<br> 1. time of day<br> 2. location<br> 3. type of service<br>n. Billing address<br>o. Payment method | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| C-MSS-75010 | A | The MSS accountability management service shall be capable of receiving user profile records entered by M&O personnel. | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| | | | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |

## System Management Subsystem L4 to RbR traceability

| C-MSS-75015 | B | The MSS accountability management service shall provide the capability for M&O Staff to modifying and delete user profile records. | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum: a. Users identifications b. Addresses c. Allowed privileges |
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| C-MSS-75020 | A | The MSS Accountability Management Service shall create a new user account whenever a new record is added to the user profile database. | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum: a. Users identifications b. Addresses c. Allowed privileges |
| | | | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum: a. Users identifications b. Addresses c. Allowed privileges |
| C-MSS-75025 | A | The MSS Accountability Management Service shall be capable of receiving requests for user profile data from ECS applications. | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum: a. Users identifications b. Addresses c. Allowed privileges |
| | | | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum: a. Users identifications b. Addresses c. Allowed privileges |
| C-MSS-75030 | A | The MSS Accountability Management Service shall be capable of receiving requests for user profile data from M&O operators. | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum: a. Users identifications b. Addresses c. Allowed privileges |
| | | | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum: a. Users identifications b. Addresses c. Allowed privileges |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-75035 | A | The MSS Accountability Management Service shall be capable of sending requested user profile data to ECS applications | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| | | | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| C-MSS-75040 | A | The MSS Accountability Management Service shall be capable of sending requested user profile data to M&O operators. | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| | | | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| C-MSS-75045 | A | The MSS Accountability Management Service shall be capable of receiving requests for the status of a specified data order from M&O operators. | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| | | | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| C-MSS-75050 | A | The MSS Accountability Management Service shall be capable of receiving requests for user account history data from M&O operators. | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| C-MSS-75055 | A | The MSS Accountability Management Service shall be capable of sending requested status of a specified data order to M&O operators. | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| | | | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| C-MSS-75057 | A | The MSS Accountability Management Service shall be capable of sending requested user account history data to M&O operators. | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| | | | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| C-MSS-75060 | B | The MSS accountability management service shall provide the capability to maintain a system profile inventory database of ECS software and non product data. | SMC-7320#B | The SMC shall establish, maintain, and update the system profile, as opposed to science data profile, inventory to include, at a minimum:<br>a. Data identifications<br>b. Data purposes<br>c. Data locations<br>d. Data classifications (proprietary, open, confidential, etc.)<br>e. Data priorities |
| | | | EOSD3220#B | All media shall be handled and stored in protected areas with environmental and accounting procedures applied. |

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| C-MSS-75070 | B | The system profile inventory database shall store the following information for each inventory entry: Data ID, Data purpose, Data location, Data classification and Data priority. | EOSD3220#B | All media shall be handled and stored in protected areas with environmental and accounting procedures applied. |
| | | | SMC-7320#B | The SMC shall establish, maintain, and update the system profile, as opposed to science data profile, inventory to include, at a minimum:<br>a. Data identifications<br>b. Data purposes<br>c. Data locations<br>d. Data classifications (proprietary, open, confidential, etc.)<br>e. Data priorities |
| C-MSS-75080 | B | The MSS accountability management service shall be capable of receiving new system profile inventory records entered by M&O Staff. | SMC-7320#B | The SMC shall establish, maintain, and update the system profile, as opposed to science data profile, inventory to include, at a minimum:<br>a. Data identifications<br>b. Data purposes<br>c. Data locations<br>d. Data classifications (proprietary, open, confidential, etc.)<br>e. Data priorities |
| C-MSS-75090 | B | The MSS accountability management service shall provide the capability for M&O Staff to modify and delete system profile inventory records . | SMC-7320#B | The SMC shall establish, maintain, and update the system profile, as opposed to science data profile, inventory to include, at a minimum:<br>a. Data identifications<br>b. Data purposes<br>c. Data locations<br>d. Data classifications (proprietary, open, confidential, etc.)<br>e. Data priorities |
| C-MSS-75100 | B | The MSS Accountability Management Service shall have the capability to send user registration data to the MMO. | | |
| C-MSS-75102 | B | The Accountability Service shall have the capability to receive an account balance status request from the CLS. | IMS-1360#B | The IMS shall provide the capability for users to request and receive the current status of their account balance. |
| C-MSS-75105 | B | The  Accountability Service shall have the capability to receive user registration requests from the CLS. | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |

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| C-MSS-75110 | B | The MSS Accountability Management Service shall have the capability to receive user registration information from the MMO. | | |
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| C-MSS-75112 | B | The Accountability Service shall have the capability to receive user comment information from the CLS. | IMS-1645#B | The IMS shall accept from the users and output to the SMC, user feedback information, which shall contain the following at a minimum:<br>a. Product data quality assessment<br>b. Schedule performance assessment<br>c. Evaluation of quality of ECS service |
| C-MSS-75115 | B | The Accountability Service shall have the capability to receive requests for user profile updates from the CLS. | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| C-MSS-75120 | B | The Accountability Service shall have the capability to receive user registration status requests from the CLS. | SMC-5320#B | The SMC shall establish, maintain, and authenticate access privileges for ECS scientific users. |
| C-MSS-75125 | B | The Accountability Service shall have the capability to receive user comment survey requests from the CLS. | SMC-5320#B | The SMC shall establish, maintain, and authenticate access privileges for ECS scientific users. |
| C-MSS-75130 | B | The Accountability Service shall have the capability to send user registration information to the CLS. | IMS-0040#B | The IMS shall verify user authorization by validation of inputs with information as supplied by the SMC. |
| C-MSS-75135 | B | The Accountability Service shall have the capability to send user registration status to the CLS. | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| C-MSS-75140 | B | The Accountability Service shall have the capability to send user profile information to the CLS. | IMS-0080#B | The IMS shall maintain a list of authorized ECS services for each user and shall update the list with information supplied by the SMC. |
| C-MSS-75145 | B | The Accountability Service shall have the capability to send account status to the CLS. | IMS-1360#B | The IMS shall provide the capability for users to request and receive the current status of their account balance. |
| C-MSS-75150 | B | The Accountability Service shall have the capability to send user comment surveys to the CLS. | SMC-3421#B | The SMC shall analyze user feedback information supporting the development of recommended remedial or enhancement actions. |

| C-MSS-75155 | B | The Accountability Service shall have the capability to receive data delivery records from the INS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
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| C-MSS-75160 | B | The Accountability Service shall have the capability to receive data delivery notices from the INS. | SMC-3350#B | The SMC shall generate, maintain, and update performance criteria and responses to performance deficiencies for system, site, and element resources and activities, such as:<br>a. Data collection<br>b. Product generation, QA and validation<br>c. Reprocessing<br>d. Data delivery to DAACs and to users<br>e. Response to user requests<br>f. Response to TOOs<br>g. Response to field experiments<br>h. Response to emergency situations |
| C-MSS-75165 | B | The Accountability Service shall have the capability to receive TDRSS schedule requests from the DSS. | SMC-1315#B | The LSM shall  provide each elements scheduling function  with access to the system-wide scheduling information, including, at a minimum:<br>a. ECS policies and procedures regarding instrument and ground event scheduling<br>b. Other elements plans and schedules<br>c. Element allocations of ground event functions and capabilities<br>d. Product generation information<br>e. Scheduling directives for testing, maintenance, and emergency situations |
|  |  |  | IMS-1640#B | The IMS shall provide to the SMC, status to include at a minimum:<br>a. Integration, testing, and simulation status<br>b. Maintenance status<br>c. Logistics status<br>d. Training information |

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| C-MSS-76000 | A | The MSS accountability management service shall be capable of retrieving user activity data (user id, type of user activity, data items used (browsed, searched, or ordered), and date/time of activity) from records generated by the SDPS Data Server, Data Processing, and Client subsystems. | EOSD2510#B | ECS elements shall maintain an audit trail of:<br>a. All accesses to the element security controlled data<br>b. Users/processes/elements requesting access to element security controlled data<br>c. Data access/manipulation operations performed on security controlled data<br>d. Date and time of access to security controlled data<br>e. Unsuccessful access attempt to the element security controlled data by unauthorized users/elements/processes<br>f. Detected computer system viruses and worms<br>g. Actions taken to contain or destroy a virus |
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| | | | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | EOSD2510#A | ECS elements shall maintain an audit trail of:<br>a. All accesses to the element security controlled data<br>b. Users/processes/elements requesting access to element security controlled data<br>c. Data access/manipulation operations performed on security controlled data<br>d. Date and time of access to security controlled data<br>e. Unsuccessful access attempt to the element security controlled data by unauthorized users/elements/processes<br>f. Detected computer system viruses and worms<br>g. Actions taken to contain or destroy a virus |
| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |
| C-MSS-76005 | A | The MSS Accountability Management Service shall be capable of retrieving user history data for a specified managed resource. | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| | | | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-76010 | A | The MSS accountability management service shall be capable of querying via the Management Data Access service user activity data stored in the Management Database. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |
| C-MSS-76020 | A | The MSS accountability management service shall be capable of retrieving all activities associated with a particular user or data item via the Management Data Access service. | SMC-6310#A | The SMC shall perform, as needed, security audit trails. |
| | | | SMC-6315#A | The LSM shall perform, as needed, security audit trails within its element. |
| | | | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6310#B | The SMC shall perform, as needed, security audit trails. |
| | | | SMC-6315#B | The LSM shall perform, as needed, security audit trails within its element. |
| | | | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |
| C-MSS-76030 | A | The MSS Accountability Management Service shall log, for each ECS host, incoming access attempts via:<br>a. telnet<br>b. FTP<br>c. rlogin<br>d. finger. | SMC-6310#B | The SMC shall perform, as needed, security audit trails. |

| | | | ESN-1430#A | The ESN shall provide the following security event functions:<br>a. Event detection<br>b. Event reporting<br>c. Event logging |
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| | | | SMC-6315#B | The LSM shall perform, as needed, security audit trails within its element. |
| | | | SMC-6310#A | The SMC shall perform, as needed, security audit trails. |
| | | | SMC-6315#A | The LSM shall perform, as needed, security audit trails within its element. |
| | | | EOSD2510#A | ECS elements shall maintain an audit trail of:<br>a. All accesses to the element security controlled data<br>b. Users/processes/elements requesting access to element security controlled data<br>c. Data access/manipulation operations performed on security controlled data<br>d. Date and time of access to security controlled data<br>e. Unsuccessful access attempt to the element security controlled data by unauthorized users/elements/processes<br>f. Detected computer system viruses and worms<br>g. Actions taken to contain or destroy a virus |
| | | | EOSD2510#B | ECS elements shall maintain an audit trail of:<br>a. All accesses to the element security controlled data<br>b. Users/processes/elements requesting access to element security controlled data<br>c. Data access/manipulation operations performed on security controlled data<br>d. Date and time of access to security controlled data<br>e. Unsuccessful access attempt to the element security controlled data by unauthorized users/elements/processes<br>f. Detected computer system viruses and worms<br>g. Actions taken to contain or destroy a virus |
| | | | ESN-1430#B | The ESN shall provide the following security event functions:<br>a. Event detection<br>b. Event reporting<br>c. Event logging |
| C-MSS-76040 | A | The MSS Accountability Management Service shall be capable of reporting audit information to M&O staff via the MUI service. | SMC-6310#A | The SMC shall perform, as needed, security audit trails. |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-6315#A | The LSM shall perform, as needed, security audit trails within its element. |
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| | | | SMC-6310#B | The SMC shall perform, as needed, security audit trails. |
| | | | SMC-6315#B | The LSM shall perform, as needed, security audit trails within its element. |
| | | | EOSD1703#A | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| | | | EOSD1703#B | ECS shall provide maintenance and operations interfaces to the DAACs to support the functions of:<br>a). System Management<br>b). Science Algorithm Integration<br>c). Product Generation<br>d). Data Archive/Distribution<br>e). User Support Services<br>f). System Maintenance |
| C-MSS-77000 | A | The MSS accountability management service shall be capable of retrieving data processing information (instrument used and date/time of ingest or algorithm used (name and version) and date/time or processing) from records generated by the SDPS Data Processing subystem. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-77005 | A | The MSS Accountability Management Service shall be capable of retrieving data processing information for a specified managed resource. | SMC-7300#B | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| | | | SMC-7300#A | The SMC shall establish, maintain, and update the authorized users inventory to include, at a minimum:<br>a. Users identifications<br>b. Addresses<br>c. Allowed privileges |
| C-MSS-77010 | A | The MSS accountability management service shall be capable of querying via the Management Data Access service all data processing information stored in the Management database. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |
| C-MSS-77030 | A | The MSS accountability management service shall be capable of retrieving all data processing information logged for a specified data item. | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6330#A | The SMC shall establish, maintain, and update a data tracking system that, at a minimum:<br>a. Tracks data transport from system input to system output<br>b. Allows the status of all product-production activities to be determined |
| | | | SMC-6335#A | The LSM shall, as needed, maintain and update a data tracking system that, at a minimum:<br>a. Tracks data transport from element input to element output<br>b. Allows the status of all product-production activities to be determined |
| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |

| | | | SMC-6335#B | The LSM shall, as needed, maintain and update a data tracking system that, at a minimum:<br>a. Tracks data transport from element input to element output<br>b. Allows the status of all product-production activities to be determined |
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| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6330#B | The SMC shall establish, maintain, and update a data tracking system that, at a minimum:<br>a. Tracks data transport from system input to system output<br>b. Allows the status of all product-production activities to be determined |
| C-MSS-77040 | A | The MSS accountability management service shall be capable of accepting queries for the status of a particular ordered data item from the SDPS Client subsystem. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6330#B | The SMC shall establish, maintain, and update a data tracking system that, at a minimum:<br>a. Tracks data transport from system input to system output<br>b. Allows the status of all product-production activities to be determined |
| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6335#B | The LSM shall, as needed, maintain and update a data tracking system that, at a minimum:<br>a. Tracks data transport from element input to element output<br>b. Allows the status of all product-production activities to be determined |
| | | | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6335#A | The LSM shall, as needed, maintain and update a data tracking system that, at a minimum:<br>a. Tracks data transport from element input to element output<br>b. Allows the status of all product-production activities to be determined |
| | | | SMC-6330#A | The SMC shall establish, maintain, and update a data tracking system that, at a minimum:<br>a. Tracks data transport from system input to system output<br>b. Allows the status of all product-production activities to be determined |

## *System Management Subsystem L4 to RbR traceability*

| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |
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| C-MSS-77050 | A | The MSS accountability management service shall be capable of interfacing with the SDPS subsystems to determine the status of an ordered data item to be: <br> a. Request in queue for processing <br> b. Request currently being processed <br> c. Request successfully processed <br> d. Error in request processing <br> e. Error in request | IMS-1310#A | The IMS shall provide the capability to accept, from product requesters, product distribution status requests, retrieve the request status, and display the status to the requester for an ECS, ADC, or ODC data product. |
| | | | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6330#B | The SMC shall establish, maintain, and update a data tracking system that, at a minimum: <br> a. Tracks data transport from system input to system output <br> b. Allows the status of all product-production activities to be determined |
| | | | SMC-6335#B | The LSM shall, as needed, maintain and update a data tracking system that, at a minimum: <br> a. Tracks data transport from element input to element output <br> b. Allows the status of all product-production activities to be determined |
| | | | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6330#A | The SMC shall establish, maintain, and update a data tracking system that, at a minimum: <br> a. Tracks data transport from system input to system output <br> b. Allows the status of all product-production activities to be determined |
| | | | SMC-6335#A | The LSM shall, as needed, maintain and update a data tracking system that, at a minimum: <br> a. Tracks data transport from element input to element output <br> b. Allows the status of all product-production activities to be determined |
| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |

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## System Management Subsystem L4 to RbR traceability

| C-MSS-77060 | A | The MSS accountability management service shall be capable of reporting the requested status of an ordered data item to the SDPS Client subsystem. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
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| | | | SMC-6330#B | The SMC shall establish, maintain, and update a data tracking system that, at a minimum:<br>a. Tracks data transport from system input to system output<br>b. Allows the status of all product-production activities to be determined |
| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6335#B | The LSM shall, as needed, maintain and update a data tracking system that, at a minimum:<br>a. Tracks data transport from element input to element output<br>b. Allows the status of all product-production activities to be determined |
| | | | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6335#A | The LSM shall, as needed, maintain and update a data tracking system that, at a minimum:<br>a. Tracks data transport from element input to element output<br>b. Allows the status of all product-production activities to be determined |
| | | | SMC-6330#A | The SMC shall establish, maintain, and update a data tracking system that, at a minimum:<br>a. Tracks data transport from system input to system output<br>b. Allows the status of all product-production activities to be determined |
| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |
| C-MSS-77070 | A | The MSS accountability management service shall be capable of searching local history logs to find processing data for an ordered data item. | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |

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| C-MSS-77080 | A | The MSS Accountability Management Service shall have the capability to generate reports from collected management data. | ESN-0775#A | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| | | | ESN-0775#B | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| C-MSS-77090 | A | The MSS Accountability Management Service shall have the capability to redirect reports to:<br>a.       console<br>b.       disk file<br>c.       printer | ESN-0775#A | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| | | | ESN-0775#B | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| C-MSS-78010 | B | The MSS Billing/Accounting Application Service (BAAS) functional requirements shall be consistent with the functional requirements defined by the Federal Financial Management System Requirements issued by the Joint Financial Management Improvement Program (JFIMP) | SMC-6301#B | The SMC accounting policies and procedures shall conform with accounting principles, standards, and facilities including:<br>a. General Accounting Office (GAO) Title 2-Accounting and Title 3-Audit<br>b. Office of Management and Budget (OMB) Circular No. A-127, Financial Management Systems<br>c. OMB Circular No. A-130, Management of Federal Information Resources |
| C-MSS-78030 | B | The MSS BAAS shall provide the following major functions: billing & invoicing, accounts receivable, accounts payable, collections, general ledger, cost accounting, and reporting. | SMC-6301#B | The SMC accounting policies and procedures shall conform with accounting principles, standards, and facilities including:<br>a. General Accounting Office (GAO) Title 2-Accounting and Title 3-Audit<br>b. Office of Management and Budget (OMB) Circular No. A-127, Financial Management Systems<br>c. OMB Circular No. A-130, Management of Federal Information Resources |
| C-MSS-78100 | B | The MSS BAAS Billing & Invoicing function shall generate user account billing statements as well as billing invoices. | SMC-6400#B | The SMC shall generate invoices, including billing information for ECS. |
| C-MSS-78110 | B | The MSS BAAS Billing & Invoicing function shall generate user account billing statements and billing invoices on paper as well as electronic formats. | SMC-6400#B | The SMC shall generate invoices, including billing information for ECS. |
| C-MSS-78120 | B | The MSS BAAS Billing & Invoicing function shall price user activity records using standardized  pricing tables. | SMC-6400#B | The SMC shall generate invoices, including billing information for ECS. |

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| C-MSS-78130 | B | The MSS BAAS Billing & Invoicing function shall apply credits and adjustments given to a user account over a billing period. | SMC-6400#B | The SMC shall generate invoices, including billing information for ECS. |
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| C-MSS-78140 | B | The MSS BAAS Billing & Invoicing function shall apply any "pre-paid" amounts already existing in an account to current user account charges. | SMC-6400#B | The SMC shall generate invoices, including billing information for ECS. |
| C-MSS-78150 | B | The MSS BAAS Billing & Invoicing function shall accept special rates for specific users/groups. | SMC-6400#B | The SMC shall generate invoices, including billing information for ECS. |
| C-MSS-78160 | B | The MSS BAAS Billing & Invoicing function shall apply any past due amounts to an invoice. | SMC-6400#B | The SMC shall generate invoices, including billing information for ECS. |
| C-MSS-78180 | B | The MSS BAAS Billing & Invoicing function shall provide the capability to consolidate multiple user accounts into a single group account, due from one paying location. | SMC-6410#B | The SMC shall perform on a periodic basis the generation and distribution of bills. |
| C-MSS-78190 | B | The MSS BAAS Billing & Invoicing function shall generate statement and billing invoice reprints upon request. | SMC-6410#B | The SMC shall perform on a periodic basis the generation and distribution of bills. |
| C-MSS-78200 | B | The MSS BAAS Billing & Invoicing function shall be capable of accessing account activity information from the ECS Management Database to price billable ECS data product request. | SMC-6410#B | The SMC shall perform on a periodic basis the generation and distribution of bills. |
| C-MSS-78220 | B | The MSS BAAS Billing & Invoicing function shall have access to account billing information from the ECS Management Database (e.g. billing address, bill cycle, payment option). | SMC-6410#B | The SMC shall perform on a periodic basis the generation and distribution of bills. |
| C-MSS-78240 | B | The MSS BAAS Billing & Invoicing function shall collect science user activity information from the ECS Management Database daily. | SMC-6410#B | The SMC shall perform on a periodic basis the generation and distribution of bills. |
| C-MSS-78260 | B | The MSS BAAS Billing & Invoicing function shall provide the capability to generate bill invoices in multiple billing cycles. | SMC-6410#B | The SMC shall perform on a periodic basis the generation and distribution of bills. |

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| C-MSS-78270 | B | The MSS BAAS Billing and Invoicing function shall make available to the DSS, pricing algorithms it maintains in standard pricing tables, for the purposes of price estimation. | SMC-6370#B | The SMC shall make the billing algorithms available to other elements for the purpose of informing science users of the cost of ECS services. |
| | | | IMS-1340#B | The IMS shall, using information provided by the SMC, provide the capability for users to preview billing costs for EOSDIS data products prior to order submission. |
| C-MSS-78300 | B | The MSS BAAS Accounts Receivable (AR) function shall maintain current updated individual and summary user account balances. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78310 | B | The MSS BAAS Accounts Receivable (AR) function shall have the capability to reference all update transactions to the appropriate supporting documents or resources (e.g., billing invoice number). | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78320 | B | The MSS BAAS Accounts Receivable (AR) function shall allow transactions to be entered in batches. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78330 | B | The MSS BAAS Accounts Receivable (AR) function shall accept manual entry of adjustments and transactions, bypassing batch requirements. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78340 | B | The MSS BAAS Accounts Receivable (AR) function shall record complete and partial receipts of payments. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78350 | B | The MSS BAAS Accounts Receivable (AR) function shall provide the ability to apply receipts to more than one receivable. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78360 | B | The MSS BAAS Accounts Receivable (AR) shall post credit balances and adjustments to user accounts. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78370 | B | The MSS BAAS Accounts Receivable (AR) function shall accept "pre-paid accounts." | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78380 | B | The MSS BAAS Accounts Receivable (AR) function shall deduct amounts due from "pre-paid" accounts and show balance remaining. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |

| C-MSS-78390 | B | The MSS BAAS Accounts Receivable (AR) function shall provide the ability to flag "pre-paid" accounts with no balance remaining. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
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| C-MSS-78400 | B | The MSS BAAS Accounts Receivable (AR) function shall accept purchase orders from users as form of payment. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78410 | B | The MSS BAAS Accounts Receivable (AR) function shall process refunds for deposits taken on service. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78420 | B | The MSS BAAS Accounts Receivable (AR) function shall process refunds for overpayments on user charges. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78425 | B | The MSS BAAS Accounts Receivable (AR) function shall process refunds for data purchases returned by the user. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78430 | B | The MSS BAAS Accounts Receivable (AR) function shall provide the capability to apply refunds to outstanding balances or to credit an account for future amounts due if users request it. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78440 | B | The MSS BAAS Accounts Receivable (AR) function shall provide the capability to re-establish a receivable for checks returned due to insufficient funds. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78450 | B | The MSS BAAS Accounts Receivable (AR) function shall support automatic balancing of the accounts receivable master file. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78460 | B | The MSS BASS Accounts Receivable (AR) shall monitor the aging of individual account receivables. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78480 | B | The MSS BAAS Accounts receivable (AR) function shall maintain a history for each account. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| C-MSS-78490 | B | The MSS BAAS Accounts Receivable (AR) function shall identify each transaction via reference numbers. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| C-MSS-78500 | B | The MSS BAAS Accounts Receivable (AR) function shall provide the capability to purge accounts, removing closed accounts to a history file. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-78510 | B | The MSS BAAS Accounts Receivable (AR) function shall have the capability to receive accounts receivable data for sales conducted over-the-counter at a site. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
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| C-MSS-78520 | B | The MSS BAAS Accounts Receivable (AR) function shall provide the capability to communicate revenue information to a NASA accounting system for reporting and deposit. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78530 | B | The MSS BAAS Accounts Receivable (AR) function shall submit user refund requests to a NASA accounting system. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78540 | B | The MSS BAAS Accounts Receivable (AR) function shall make account balance information available to science users upon a CLS request. | IMS-1370#B | The IMS shall present account status reports prepared by the SMC to requesters. |
| C-MSS-78550 | B | The MSS BAAS  Accounts Receivable (AR) function shall  produce an end-of-period "trial balances" showing an account's opening balance, period activity, and closing balance. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum: a. Account authorization and balances by users/groups b. Resource utilization costs by service rendered c. End-to-end cost accounting information by standard product d. User/group accounts payable/accounts receivable information |
| C-MSS-78560 | B | The MSS BAAS Accounts Receivable (AR) function shall provide reports indicating summary of accounts receivable activity for a specific period. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum: a. Account authorization and balances by users/groups b. Resource utilization costs by service rendered c. End-to-end cost accounting information by standard product d. User/group accounts payable/accounts receivable information |
| C-MSS-78570 | B | The MSS BAAS  Accounts Receivable (AR) function shall provide an exception report listing all accounts with credit balances. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum: a. Account authorization and balances by users/groups b. Resource utilization costs by service rendered c. End-to-end cost accounting information by standard product d. User/group accounts payable/accounts receivable information |

| C-MSS-78580 | B | The MSS BAAS Accounts Receivable (AR) function shall identify receivables which have been reduced by means other than cash collections (e.g., adjustments), | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
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| C-MSS-78590 | B | The MSS BAAS Accounts Receivable (AR) function shall produce an account receivable aging report. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-78600 | B | The MSS BAAS Accounts Receivable (AR) function shall provide upon request a batch listing of all activity and items in a particular batch. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-78610 | B | The MSS BAAS Accounts Receivable (AR) function shall provide upon request an account payment profile. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-78700 | B | The MSS BAAS Accounts Payable (AP) function shall maintain vendor/payee master files. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78710 | B | The MSS BAAS Accounts Payable (AP) function shall provide the capability to update vendor/payee master files. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78720 | B | The MSS BAAS Accounts Payable (AP) function shall maintain payee account balances. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |

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## System Management Subsystem L4 to RbR traceability

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| C-MSS-78730 | B | The MSS BAAS Accounts Payable (AP) function shall maintain payee account information to include:<br>a. payee bank account information.<br>b. payee taxpayer identification number and payee type.<br>c. contract terms (e.g., net terms, terms that use discounting,end-of-month terms). | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78740 | B | The MSS BAAS Accounts Payable (AP) function shall provide the capability to establish "pre-paid" accounts. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78750 | B | The MSS BAAS Accounts Payable (AP) function shall provide the capability to establish temporary accounts (e.g., when issuing a refund to a user account). | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78760 | B | The MSS BAAS Accounts Payable (AP) function shall support batch entry of invoices. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78770 | B | The MSS BAAS Accounts Payable (AP) function shall support matching of vendor invoices to purchase order line items. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78780 | B | The MSS BAAS Accounts Payable (AP) function shall support matching of vendor invoices to inventory receiving reports. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78790 | B | The MSS BAAS Accounts Payable (AP) function shall provide the capability to indicate  discrepancies between quantity, type, and cost of goods ordered, received, and invoiced. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78810 | B | The MSS BAAS Accounts Payable (AP) function shall provide on-line voucher approval by M&O staff. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-78820 | B | The MSS BAAS Accounts Payable (AP) function shall provide re-routing capabilities for vouchers which are not approved the first time. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78830 | B | The MSS BAAS Accounts Payable (AP) function shall provide the ability to suspend a voucher from further processing. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78840 | B | The MSS BAAS Accounts Payable (AP) function shall provide the capability to void a voucher | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78850 | B | The MSS BAAS Accounts Payable (AP) function shall allow M&O staff to break up a voucher into multiple payments when charges on invoice have different due dates. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78860 | B | The MSS BAAS Accounts Payable (AP) function shall provide the capability to combine several vouchers for the same vendor into a single payment. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78870 | B | The MSS BAAS Accounts Payable (AP) function shall provide the capability to post payments to "pre-paid" accounts automatically. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78880 | B | The MSS BAAS Accounts Payable (AP) function shall assign a status code to each voucher to track its progress through the system. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| C-MSS-78900 | B | The MSS BAAS Accounts Payable (AP) function shall allow an on-line query and searching of the voucher history file. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| C-MSS-78910 | B | The MSS BAAS Accounts Payable (AP) function shall allow orders to be re-opened by M&O staff after final payment has been made. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| C-MSS-78920 | B | The MSS BAAS Accounts Payable (AP) function shall have the capability to access purchase order line items information from the ECS Management Database to match to vendor invoices before authorizing payment of invoices. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-78930 | B | The MSS BAAS Accounts Payable (AP) function shall have the capability to access inventory receiving reports information from the ECS Management Database to match to vendor invoices before authorizing payment of invoices. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78940 | B | The  MSS BAAS  Accounts Payable (AP) function shall transmit vendor invoice payment requests and user refund payment requests to a NASA accounting system | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-78950 | B | The MSS BAAS Accounts Payable (AP) function shall prepare detailed and summary listings of amounts payable for a specific period of time. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-78960 | B | The MSS BAAS Accounts Payable (AP) function shall provide reporting of all unreconciled and outstanding items. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-78970 | B | The MSS BAAS Accounts Payable (AP) function shall a provide vendor master list. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-79100 | B | The MSS BAAS Collections function shall  identify delinquent accounts; those accounts which have violated ECS-determined account aging parameters. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79110 | B | The MSS BAAS Collections function shall provide the capability to allow ECS-defined collections parameters. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-79120 | B | The MSS BAAS Collections function shall provide the capability to override specific accounts from the collections process. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79140 | B | The MSS BAAS Collections function shall  generate custom and form dunning letters to delinquent accounts. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79150 | B | The MSS BAAS Collections function shall keep log of contacts and contact attempts with users in delinquent accounts. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79160 | B | The MSS BAAS Collections function shall record payment arrangements made with users. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79170 | B | The MSS BAAS Collections function shall initiate service suspension, cancellation, and restoration as appropriate. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79180 | B | The MSS BAAS Collections function shall calculate amounts declared non-collectible (write-offs). | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79190 | B | The MSS BAAS Collections function shall record write-off amounts. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79200 | B | The MSS BAAS Collections function shall save all collections history information on particular accounts. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| C-MSS-79500 | B | The MSS BAAS General Ledger (GL) function shall set up a chart of accounts. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79510 | B | The MSS BAAS General Ledger (GL) function shall accept entries via balanced batches. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79520 | B | The MSS BAAS General Ledger (GL) function shall accept direct entries by-passing the batches. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79530 | B | The MSS BAAS General Ledger (GL) function shall update and edit each account on-line. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-79540 | B | The MSS BAAS General Ledger (GL) function shall provide on-line inquiry capability into account balances. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
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| C-MSS-79550 | B | The MSS BAAS General Ledger (GL) function shall provide the capability for M&O staff to establish standardized transactions. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79560 | B | The MSS BAAS General Ledger (GL) function shall provide the capability for M&O staff to modify standardized transactions. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79570 | B | The MSS BAAS General Ledger (GL) function shall accommodate future period transaction entries. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79580 | B | The MSS BAAS General Ledger (GL) function shall accommodate prior period transaction entries for all periods that are open to posting. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79590 | B | The MSS BAAS General Ledger (GL) function shall provide the capability to automatically create new accounts. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79600 | B | The MSS BAAS General Ledger (GL) function shall perform end-of-period process (trial balances), accruals, and consolidation processes under the control of authorized staff. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79610 | B | The MSS BAAS General Ledger (GL) function shall provide the capability for multiple preliminary end-of-period closings before final closing. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79620 | B | The MSS BAAS General Ledger (GL) function shall provide the capability to post current period data during preliminary end-of-period closings. | SMC-6420#B | The SMC shall perform the accounts payable, accounts receivable, and disposition of receipt accounting functions for ECS. |
| C-MSS-79630 | B | The MSS BAAS General Ledger (GL) function shall use standardized transactions identified by reference codes to control transaction editing, posting, and updating of information. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |

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| C-MSS-79640 | B | The MSS BAAS General Ledger (GL) function shall maintain a documented trail of any changes conducted by authorized staff on out-of-balance accounts. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| C-MSS-79650 | B | The MSS BAAS General Ledger (GL) function shall provide the capability to move accounts to a history file. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| C-MSS-79660 | B | The MSS BAAS General Ledger (GL) function shall provide the capability to re-open closed accounts when required. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| C-MSS-79670 | B | The MSS BAAS General Ledger (GL) function shall provide the capability to archive data needed for comparative analysis and presentation of historical information. | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-79690 | B | The MSS BAAS General Ledger (GL) function shall provide end-of-period reports (e.g., end-of-month, end-of-quarter, end-of-year). | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-79700 | B | The MSS BAAS Cost Accounting function shall have the capability to receive product cost information from the MMO. | LAND-0140#B | The MMO shall have the capability to send and the ECS shall have the capability to receive product cost information. |
| C-MSS-79760 | B | The MSS BAAS Cost Accounting function shall provide a trail to assign identifiable sources to all resource unit costs. | SMC-6380#B | The SMC shall calculate the resource unit costs associated with processing information from system input to system output. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-79780 | B | The MSS BAAS Cost Accounting function shall provide the capability to assign resource unit costs to processes using authorized cost algorithms. | SMC-6360#B | The SMC shall maintain ESDIS project authorized billing algorithms and rates used to calculate resource utilization costs. |
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| | | | SMC-6380#B | The SMC shall calculate the resource unit costs associated with processing information from system input to system output. |
| C-MSS-79790 | B | The MSS BAAS Cost Accounting function shall provide the capability to assign resource unit costs to ECS products using authorized cost algorithms. | SMC-6360#B | The SMC shall maintain ESDIS project authorized billing algorithms and rates used to calculate resource utilization costs. |
| | | | SMC-6380#B | The SMC shall calculate the resource unit costs associated with processing information from system input to system output. |
| C-MSS-79800 | B | The MSS BAAS Cost Accounting function shall provide the capability to assign resource unit costs to serve different users. | SMC-6360#B | The SMC shall maintain ESDIS project authorized billing algorithms and rates used to calculate resource utilization costs. |
| | | | SMC-6380#B | The SMC shall calculate the resource unit costs associated with processing information from system input to system output. |
| C-MSS-79810 | B | The MSS BAAS Cost Accounting function shall provide the capability to establish historical accounts of resource unit costs assigned to individual users. | SMC-6390#B | The SMC shall establish, maintain, and update resource utilization account information for, at a minimum:<br>a. Individuals<br>b. Groups<br>c. Processes |
| C-MSS-79820 | B | The MSS BAAS Cost Accounting function shall provide the capability to establish historical accounts of resource unit costs assigned to user groups. | SMC-6390#B | The SMC shall establish, maintain, and update resource utilization account information for, at a minimum:<br>a. Individuals<br>b. Groups<br>c. Processes |
| C-MSS-79830 | B | The MSS BAAS Cost Accounting function shall provide the capability to establish historical accounts to track the resource unit costs assigned to different processes. | SMC-6390#B | The SMC shall establish, maintain, and update resource utilization account information for, at a minimum:<br>a. Individuals<br>b. Groups<br>c. Processes |

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| C-MSS-79850 | B | The MSS BAAS Cost Accounting function shall have the capability to access resource unit cost information from the ECS Management Database to determine costs consumed to serve different users. | SMC-6380#B | The SMC shall calculate the resource unit costs associated with processing information from system input to system output. |
| C-MSS-79860 | B | The MSS BAAS Cost Accounting function shall have the capability to access resource unit cost from the ECS Management Database to enable ECS to allocate costs to different processes and products. | SMC-6380#B | The SMC shall calculate the resource unit costs associated with processing information from system input to system output. |
| C-MSS-79880 | B | The MSS BAAS Cost Accounting function shall provide reports assigning resource unit costs to identifiable processes. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-79890 | B | The MSS BAAS Cost Accounting function shall provide reports identifying resource unit costs traceable to particular science users/groups. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-79900 | B | The MSS BAAS Reporting function shall provide standard automated financial statements and summary reports. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-79930 | B | The MSS BAAS Reporting function shall report data in accordance with accounting standards recommended by the Federal Accounting Standards Advisory Board (FASAB) and issued by the Director of OMB. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |

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| C-MSS-79940 | B | The MSS BAAS Reporting function shall support the following report formats a. hard copy<br>b. on-line inquiries<br>c. extract data files<br>d. disk | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-79960 | B | The MSS BAAS Reporting function shall maintain prior periods reporting data for future consultation and comparative analysis. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-79970 | B | The MSS BAAS Reporting function shall provide the capability for the reformatting of reports to tailor a report to a user's specific needs. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-79980 | B | The MSS BAAS Reporting function shall allow the transfer of information to other applications outside of the Billing/Accounting Application Service (BAAS). | SMC-6370#B | The SMC shall make the billing algorithms available to other elements for the purpose of informing science users of the cost of ECS services. |
| | | | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-87500 | A | The Physical Configuration Management Service shall be capable of importing floor plans from existing files . | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |

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| C-MSS-87510 | A | The Physical Configuration Management Service shall provide a graphical interface for adding to and editing the existing floor plan. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-87520 | A | The Physical Configuration Management Service shall be capable, through interfacing with the ECS Management framework, of determining and storing information regarding physical components. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-87530 | A | The Physical Configuration Management Service shall be capable of determining and storing the following information regarding physical components:<br>a. physical device identification<br>b. physical device information<br>c. physical device location<br>d. physical device status | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-87540 | A | The Physical Configuration Management Service shall have the capability to augment the information obtained from ECS Management framework on each component with additional information. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-87550 | A | The Physical Configuration Management Service shall have the capability to allow the entry and storage of information regarding additional physical components that cannot be discerned through the ECS Management framework. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-87560 | A | The Physical Configuration Management Service shall provide a graphical interface for viewing the physical location of system components on the floor plans. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-87570 | A | The Physical Configuration Management Service shall provide a graphical interface for changing the location of the system components. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-87580 | A | The Physical Configuration Management Service shall be capable of maintaining the following information for all of the physical system components:<br>a. Inventory data (name, purchase date, purchase price, installation date, manufacturer, serial number, physical location)<br>b. Network data (network location, protocols)<br>c. Maintenance data (maintenance date) | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-87590 | A | The Physical Configuration Management Service shall be capable of interfacing with the Management Database in order to store and retrieve data. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-87600 | A | The Physical Configuration Management Service shall provide a standard set of reports against this data. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-87610 | A | The Physical Configuration Management Service shall provide the ability to produce custom reports against this data. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-87620 | A | The Physical Configuration Management Service shall provide tight integration with the Trouble Ticketing (TT) System including allowing direct access of the TT through the Physical Configuration Management Interface. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |

## System Management Subsystem L4 to RbR traceability

| C-MSS-87630 | A | The Physical Configuration Management Service shall provide the ability to interface with the ECS Management framework to capture status information on each component. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
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| C-MSS-87640 | A | The Physical Configuration Management Service shall provide the ability to display the status obtained above within the graphical interface. | SMC-7310#A | The SMC shall establish, maintain, and update the approved facility and equipment inventory to include, at a minimum:<br>a. Facility and equipment identification<br>b. Addresses<br>c. Allowed accesses to privileges |
| C-MSS-90020 | A | The DBMS shall support a client-server design paradigm with distributed data allocation. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| C-MSS-90030 | A | The DBMS shall provide security access control based upon userid, role and privleges for the following:<br>a.        database<br>b.        database object<br>c.        database operations | EOSD2430#A | Data base access and manipulation shall accommodate control of user access and update of security controlled data. |
| | | | EOSD2430#B | Data base access and manipulation shall accommodate control of user access and update of security controlled data. |
| | | | EOSD2555#B | ECS shall maintain confidentiality of user product request and accounts. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-90060 | A | The DBMS shall provide an SQL interface with query, update, and administrative functions capabilities. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
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| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8770#B | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8700#B | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8700#A | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |

## *System Management Subsystem L4 to RbR traceability*

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| | | | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software  contained within ECS,  including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-2505#B | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |
| | | | SMC-8770#A | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8705#A | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-2500#A | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software  contained within ECS,  including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-2505#A | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |

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| C-MSS-90070 | A | The DBMS shall be in compliance with the SQL-2 of Federal Information Processing System Publication (FIPS PUB) 127-1. | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
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| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| C-MSS-90080 | A | The DBMS shall support mathematical operations to generate statistics from management data to include:<br>a.     average<br>b.     maximum<br>c.     minimum<br>d.     standard deviation<br>e.     sum<br>f.     count<br>g.     variance | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | EOSD3492#A | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | ESN-0770#A | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |

| | | | ESN-1070#A | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
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| | | | EOSD3492#B | RMA data shall be maintained in a repository accessible for logistics analysis and other purposes. |
| | | | ESN-1070#B | The ESN shall provide the capability to perform the following functions, at a minimum:<br>a. generate/collect network statistics<br>b. control collection/generation of network statistics<br>c. store system statistics and statistical histories<br>d. display the system statistics<br>e. track end-to-end transaction performance |
| | | | ESN-0770#B | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| C-MSS-90120 | A | The DBMS shall be compatible with the ECS management framework to support the import of the ECS management framework data. | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-90140 | A | The DBMS shall support, or be accessed via, CSS session-establishment services. | SMC-2500#A | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
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| | | | SMC-8700#A | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software contained within ECS, including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-8770#A | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8700#B | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-8770#B | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-90150 | IR1 | The DBMS shall support access structures (i.e., single-level indexes, multilevel indexes) to improve the efficiency of retrieval of management data. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-3390#Ir1 | The SMC shall generate alert indicators of fault or degraded conditions. |
| C-MSS-90160 | A | The DBMS shall support features in compliance with X/Open environment to include the following:<br>a. Hardware independence<br>b. Operating systems independence<br>c. Network protocols independence | EOSD5020#A | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| | | | EOSD5020#B | ECS software, hardware, and interfaces shall enable transparent portability across heterogeneous site architectures, i.e. performing the same function at different ECS sites that may have different hardware implementations. |
| C-MSS-90170 | A | The DBMS shall provide the following bulk data load capabilities:<br>a. direct writes from data files to database<br>b. loading of files containing fixed and variable length records<br>c. incremental bulk load<br>d. Maintain indexes during data loads | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |

| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
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| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| C-MSS-90180 | A | The DBMS shall provide the following database backup capabilities:<br>    a. Entire database<br>    b. Incremental data<br>    c. User specified database items. | EOSD2440#A | Data base integrity including prevention of data loss and corruption shall be maintained. |
| | | | EOSD3200#A | A minimum of one backup which is maintained in a separate physical location (i.e., different building) shall be maintained for ECS software and key data items (including security audit trails and logs). |
| | | | EOSD2440#B | Data base integrity including prevention of data loss and corruption shall be maintained. |
| | | | EOSD3200#B | A minimum of one backup which is maintained in a separate physical location (i.e., different building) shall be maintained for ECS software and key data items (including security audit trails and logs). |
| C-MSS-90190 | A | The DBMS shall provide capabilities for specifying frequency, time, and type of backups. | EOSD2440#B | Data base integrity including prevention of data loss and corruption shall be maintained. |
| | | | EOSD3200#B | A minimum of one backup which is maintained in a separate physical location (i.e., different building) shall be maintained for ECS software and key data items (including security audit trails and logs). |
| | | | EOSD3200#A | A minimum of one backup which is maintained in a separate physical location (i.e., different building) shall be maintained for ECS software and key data items (including security audit trails and logs). |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-90200 | A | The DBMS shall perform on-line disk management functions to include:<br>a. Relocation of database files to different disks<br>b. Expansion of database size by adding new physical data files to it on-line<br>c. Dynamic pre-allocation of contiguous space for tables<br>d. Database objects and indexes can span physical files<br>e. Database objects and indexes can exist on different disks | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| C-MSS-90210 | A | The DBMS shall support the following features:<br>a. Data compression of nulls and variable length character strings, and indexes<br>b. Space reclaimed from deleted records automatically<br>c. Variable-length column storage | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |

| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
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| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| C-MSS-90230 | A | The DBMS shall provide a transaction roll backward capability to a specified time or state:<br>a. Restore a database<br>b. Restore all or operator selected database objects of any database | EOSD2440#A | Data base integrity including prevention of data loss and corruption shall be maintained. |
| | | | EOSD2440#B | Data base integrity including prevention of data loss and corruption shall be maintained. |
| C-MSS-90240 | A | The DBMS shall provide for automatic database recovery including a means to:<br>a. automatically restore undamaged portions of a database and recover work in progress after a system or component failure<br>b. achieve dynamic backout of database modifications, performed by a failing transaction, that does not affect separate, concurrent tasks | EOSD2440#B | Data base integrity including prevention of data loss and corruption shall be maintained. |
| | | | EOSD2990#B | The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system. |
| | | | EOSD2440#A | Data base integrity including prevention of data loss and corruption shall be maintained. |
| | | | EOSD2990#A | The ECS elements shall support the recovery from a system failure due to a loss in the integrity of the ECS data or a catastrophic violation of the security system. |
| C-MSS-90260 | A | The DBMS shall provide a capability to export, archival, and restore a database. | EOSD2440#A | Data base integrity including prevention of data loss and corruption shall be maintained. |

## System Management Subsystem L4 to RbR traceability

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| | | | EOSD2440#B | Data base integrity including prevention of data loss and corruption shall be maintained. |
| C-MSS-90280 | A | The DBMS shall provide the capability to issue and record a database checkpoint. | EOSD2440#A | Data base integrity including prevention of data loss and corruption shall be maintained. |
| | | | EOSD2440#B | Data base integrity including prevention of data loss and corruption shall be maintained. |
| C-MSS-90290 | A | The DBMS shall provide an audit trail of chronological activities in the database. | EOSD2510#B | ECS elements shall maintain an audit trail of:<br>a. All accesses to the element security controlled data<br>b. Users/processes/elements requesting access to element security controlled data<br>c. Data access/manipulation operations performed on security controlled data<br>d. Date and time of access to security controlled data<br>e. Unsuccessful access attempt to the element security controlled data by unauthorized users/elements/processes<br>f. Detected computer system viruses and worms<br>g. Actions taken to contain or destroy a virus |
| | | | SMC-6320#A | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#A | The LSM shall perform, as needed, data and user audit trails within its element. |
| | | | EOSD2510#A | ECS elements shall maintain an audit trail of:<br>a. All accesses to the element security controlled data<br>b. Users/processes/elements requesting access to element security controlled data<br>c. Data access/manipulation operations performed on security controlled data<br>d. Date and time of access to security controlled data<br>e. Unsuccessful access attempt to the element security controlled data by unauthorized users/elements/processes<br>f. Detected computer system viruses and worms<br>g. Actions taken to contain or destroy a virus |
| | | | SMC-6320#B | The SMC shall perform, as needed, data and user audit trails. |
| | | | SMC-6325#B | The LSM shall perform, as needed, data and user audit trails within its element. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-90500 | A | The Report Generator shall be compatible with the DBMS. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
|---|---|---|---|---|
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | ESN-0770#A | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | ESN-0770#B | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| C-MSS-90510 | A | The Report Generator shall provide a Motif based Graphical User Interface (GUI) for creating ad hoc reports. | ESN-0770#B | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8705#A | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |

## *System Management Subsystem L4 to RbR traceability*

| | | | | |
|---|---|---|---|---|
| | | | SMC-8770#A | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8700#A | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | ESN-0770#A | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8770#B | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8700#B | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| C-MSS-90520 | A | The Report Generator shall have the capability to generate ad hoc reports from management data maintained in the DBMS. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | ESN-0770#A | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| | | | SMC-8770#B | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8700#B | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software  contained within ECS,  including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-8770#A | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8700#A | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | ESN-0770#B | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| | | | SMC-2500#A | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software  contained within ECS,  including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |

## System Management Subsystem L4 to RbR traceability

| C-MSS-90530 | A | The Report Generator shall provide the capability to format reports to include the report:<br>a. title<br>b. header<br>c. footer<br>d. page number<br>e. date/time of report | ESN-0770#B | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
|---|---|---|---|---|
| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8700#A | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-8770#A | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |

| | | | SMC-8700#B | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
|---|---|---|---|---|
| | | | SMC-8770#B | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | ESN-0770#A | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| C-MSS-90570 | IR1 | The Report Generator shall have the capability to generate charts and graphs (e.g., bar, pie, line, etc.) from management data maintained in the DBMS. | SMC-8840#Ir1 | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>c. Resource utilization |
| | | | ESN-0770#B | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | ESN-0770#A | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |

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| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
|---|---|---|---|---|
| C-MSS-90600 | A | The Report Generator shall provide the capability to redirect generated reports to:<br>a.    console<br>b.    disk file<br>c.    printer | ESN-0770#B | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| | | | ESN-0775#B | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | ESN-0770#A | The ESN query capability shall generate ad hoc statistics and reports based on parameters entered. |
| | | | ESN-0775#A | The ESN management service shall have the capability to redirect its reports to different devices such as console, disk or printer. |
| | | | SMC-8770#B | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8700#B | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |

| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
|---|---|---|---|---|
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-8700#A | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-8770#A | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| C-MSS-91010 | A | The MSS Office Automation word processing capability shall facilitate the:<br>a.　　preparation, revision, and recording of documents, messages, reports, and data<br>b.　　import, transformation, and editing of documents produced by other word processing packages<br>c.　　insertion of worksheet and graphic images into documents, messages, and reports<br>d.　　transfer of document, message, and report information to spreadsheet and graphics applications<br>e.　　printing of documents, messages, reports, and data | SMC-1300#A | The SMC shall support and maintain the ECS policies and procedures regarding instrument and ground event scheduling, including, at a minimum:<br>a. Mission and science guidelines<br>b. Directives for scheduling instrument data ingest, processing, reprocessing, retrieval, and data distribution |
| | | | SMC-2115#A | The LSM shall  convey for site or element implementation, the managerial and operational directives regarding the allocation or upgrade of any elementĺs hardware and scientific and systems software. |

| | | | SMC-2405#A | The LSM shall coordinate with the SMC in managing the training program for its element. |
|---|---|---|---|---|
| | | | SMC-2400#A | The SMC shall support the management of training and certification programs for ECS. |
| | | | SMC-2605#A | The LSM shall support the site and element in implementing  ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-2600#A | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-2450#A | The SMC shall support the evaluation of the effectiveness of the training programs. |

# System Management Subsystem L4 to RbR traceability

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| | | | SMC-2430#A | The SMC shall support the development and use of training materials. |
| | | | SMC-2420#A | The SMC shall support the development of on-the-job training. |
| | | | SMC-2415#A | The LSM shall receive from the SMC descriptions and schedules for training courses. |
| | | | SMC-2410#A | The SMC shall provide support for the development of schedules for training courses. |
| | | | SMC-2110#A | The SMC shall have the capability to generate managerial and operational directives affecting, at a minimum, an elements:<br>a. Operational status<br>b. Resource allocation<br>c. Upgrade |
| | | | SMC-1360#A | The SMC shall generate ground resource scheduling directives, or recommendations for FOS elements, in response to emergency situations. |
| | | | SMC-5300#B | The SMC shall, in conjunction with sites and elements, establish, support, maintain, and update security policies and procedures to include, at a minimum:<br>a. Physical security<br>b. Password management<br>c. Operational security<br>d. Data security<br>e. Privileges<br>f. Network security<br>g. Compromise mitigation |
| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-1360#B | The SMC shall generate ground resource scheduling directives, or recommendations for FOS elements, in response to emergency situations. |
| | | | SMC-1300#B | The SMC shall support and maintain the ECS policies and procedures regarding instrument and ground event scheduling, including, at a minimum:<br>a. Mission and science guidelines<br>b. Directives for scheduling instrument data ingest, processing, reprocessing, retrieval, and data distribution |

## *System Management Subsystem L4 to RbR traceability*

| | | | SMC-8841#B | The SMC shall have the capability to generate detailed and summary user feedback analysis reports describing the results of analyzing user satisfaction queries, including, at a minimum:<br>a. User information<br>b. Type of transaction<br>c. Satisfaction statistics<br>d. User recommendations<br>e. SMC recommendations |
|---|---|---|---|---|
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8790#B | The SMC shall have the capability to generate, as necessary, a list of proposed enhancements with at least these elements:<br>a. Proposal name<br>b. Description of enhancement<br>c. Rationale<br>d. Impacts<br>e. Costs<br>f. Milestone schedule |
| | | | SMC-8750#B | The SMC shall have the capability to generate detailed and summary training reports, including, at a minimum:<br>a. Training programs<br>b. Training course schedules<br>c. Training course contents<br>d. Training course locations<br>e. Training attendees |
| | | | SMC-8700#B | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-6300#B | The SMC shall support, maintain, and update accounting and accountability policies and procedures based on ESDIS Project policies and procedures. |
|---|---|---|---|---|
| | | | SMC-5305#B | The LSM shall maintain security policies and procedures, including, at a minimum:<br>a. Physical security<br>b. Password management<br>c. Operational security<br>d. Data classifications<br>e. Access/privileges<br>f. Compromise mitigation |
| | | | SMC-3421#A | The SMC shall analyze user feedback information supporting the development of recommended remedial or enhancement actions. |
| | | | SMC-4300#A | The SMC shall support, maintain, and update system fault management policies and procedures including, at a minimum:<br>a. Fault identification<br>b. Fault priorities<br>c. Recovery or corrective actions |
| | | | SMC-4305#A | The LSM shall maintain fault management policies and procedures for its element. |
| | | | SMC-8300#A | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| | | | SMC-8700#A | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-8750#A | The SMC shall have the capability to generate detailed and summary training reports, including, at a minimum:<br>a. Training programs<br>b. Training course schedules<br>c. Training course contents<br>d. Training course locations<br>e. Training attendees |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-4305#B | The LSM shall maintain  fault management policies and procedures for its element. |
|---|---|---|---|---|
| | | | SMC-4300#B | The SMC shall support, maintain, and update system fault management policies and procedures including, at a minimum:<br>a. Fault identification<br>b. Fault priorities<br>c. Recovery or corrective actions |
| | | | SMC-2605#B | The LSM shall support the site and element in implementing  ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-2600#B | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

## System Management Subsystem L4 to RbR traceability

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| | | | SMC-2450#B | The SMC shall support the evaluation of the effectiveness of the training programs. |
| | | | SMC-2430#B | The SMC shall support the development and use of training materials. |
| | | | SMC-2420#B | The SMC shall support the development of on-the-job training. |
| | | | SMC-2415#B | The LSM shall receive from the SMC descriptions and schedules for training courses. |
| | | | SMC-2410#B | The SMC shall provide support for the development of schedules for training courses. |
| | | | SMC-2405#B | The LSM shall coordinate with the SMC in managing the training program for its element. |
| | | | SMC-2400#B | The SMC shall support the management of training and certification programs for ECS. |
| | | | SMC-2115#B | The LSM shall  convey for site or element implementation, the managerial and operational directives regarding the allocation or upgrade of any elementĺs hardware and scientific and systems software. |
| | | | SMC-2110#B | The SMC shall have the capability to generate managerial and operational directives affecting, at a minimum, an elements:<br>a. Operational status<br>b. Resource allocation<br>c. Upgrade |
| | | | SMC-8841#A | The SMC shall have the capability to generate detailed and summary user feedback analysis reports describing the results of analyzing user satisfaction queries, including, at a minimum:<br>a. User information<br>b. Type of transaction<br>c. Satisfaction statistics<br>d. User recommendations<br>e. SMC recommendations |

| | | | SMC-8790#A | |
|---|---|---|---|---|
| | | | | The SMC shall have the capability to generate, as necessary, a list of proposed enhancements with at least these elements:<br>a. Proposal name<br>b. Description of enhancement<br>c. Rationale<br>d. Impacts<br>e. Costs<br>f. Milestone schedule |
| | | | SMC-8705#A | |
| | | | | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8305#A | |
| | | | | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-6300#A | |
| | | | | The SMC shall support, maintain, and update accountability policies and procedures based on ESDIS Project policies and procedures. |
| | | | SMC-5305#A | |
| | | | | The LSM shall maintain security policies and procedures, including, at a minimum:<br>a. Physical security<br>b. Password management<br>c. Operational security<br>d. Data classifications<br>e. Access/privileges<br>f. Compromise mitigation |
| | | | SMC-5300#A | |
| | | | | The SMC shall, in conjunction with sites and elements, establish, support, maintain, and update security policies and procedures to include, at a minimum:<br>a. Physical security<br>b. Password management<br>c. Operational security<br>d. Data security<br>e. Privileges<br>f. Network security<br>g. Compromise mitigation |

## System Management Subsystem L4 to RbR traceability

| C-MSS-91012 | A | The MSS Office Automation word processing capability shall be capable of importing from ASCII text and RTF formats. | SMC-2600#A | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
|---|---|---|---|---|
| | | | SMC-2605#A | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-2605#B | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
|---|---|---|---|---|
| | | | SMC-2600#B | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

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### System Management Subsystem L4 to RbR traceability

| C-MSS-91015 | A | The MSS Office Automation word processing capability shall be capable of exporting to Postscript, ASCII text, and RTF formats. | SMC-2600#A | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
|---|---|---|---|---|
| | | | SMC-2605#A | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

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| | | | SMC-2605#B | |
|---|---|---|---|---|
| | | | | The LSM shall support the site and element in implementing  ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-2600#B | |
| | | | | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

## System Management Subsystem L4 to RbR traceability

| C-MSS-91020 | IR1 | The MSS Office Automation shall provide a spreadsheet capability that:<br>a. simulates and displays an accountant's worksheet<br>b. enables revisions and calculations on the displayed worksheet's data<br>c. enables transfer of the worksheet data to database, word processing and graphics applications<br>d. enables printing of worksheet information. | SMC-4305#Ir1 | The LSM shall maintain fault management policies and procedures for its element. |
| --- | --- | --- | --- | --- |
| | | | SMC-2505#Ir1 | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |
| | | | SMC-2300#A | The SMC shall monitor the spares inventory within each element. |
| | | | SMC-2305#A | The LSM shall monitor the spares inventory within its element. |
| | | | SMC-2315#A | The LSM shall manage the replenishment of spare parts within its element. |
| | | | SMC-2325#A | The LSM shall monitor the consumable inventory within its element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| | | | SMC-2320#A | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| | | | SMC-8841#A | The SMC shall have the capability to generate detailed and summary user feedback analysis reports describing the results of analyzing user satisfaction queries, including, at a minimum:<br>a. User information<br>b. Type of transaction<br>c. Satisfaction statistics<br>d. User recommendations<br>e. SMC recommendations |

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| | | | SMC-8790#A | The SMC shall have the capability to generate, as necessary, a list of proposed enhancements with at least these elements:<br>a. Proposal name<br>b. Description of enhancement<br>c. Rationale<br>d. Impacts<br>e. Costs<br>f. Milestone schedule |
|---|---|---|---|---|
| | | | SMC-8770#A | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8750#A | The SMC shall have the capability to generate detailed and summary training reports, including, at a minimum:<br>a. Training programs<br>b. Training course schedules<br>c. Training course contents<br>d. Training course locations<br>e. Training attendees |
| | | | SMC-8705#A | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8700#A | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-8305#A | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
| | | | SMC-4305#A | The LSM shall maintain  fault management policies and procedures for its element. |

| | | | SMC-2605#A | |
|---|---|---|---|---|
| | | | | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-2600#A | |
| | | | | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-2505#A | |
| | | | | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |

## System Management Subsystem L4 to RbR traceability

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|---|---|---|---|---|
| | | | SMC-2500#A | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software  contained within ECS,  including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-2410#A | The SMC shall provide support for the development of schedules for training courses. |
| | | | SMC-2400#A | The SMC shall support the management of training and certification programs for ECS. |
| | | | SMC-2335#A | The LSM shall manage the replenishment of consumable items for its element. |
| | | | SMC-2330#A | The SMC shall monitor the replenishment of consumable items for all elements. |
| | | | SMC-2310#A | The SMC shall oversee the replenishment of spare parts for all elements. |
| | | | SMC-2300#B | The SMC shall monitor the spares inventory within each element. |
| | | | SMC-2320#B | The SMC shall monitor the consumable inventory within each element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| | | | SMC-2330#B | The SMC shall monitor the replenishment of consumable items for all elements. |
| | | | SMC-2400#B | The SMC shall support the management of training and certification programs for ECS. |
| | | | SMC-2410#B | The SMC shall provide support for the development of schedules for training courses. |
| | | | SMC-2335#B | The LSM shall manage the replenishment of consumable items for its element. |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-8841#B | The SMC shall have the capability to generate detailed and summary user feedback analysis reports describing the results of analyzing user satisfaction queries, including, at a minimum:<br>a. User information<br>b. Type of transaction<br>c. Satisfaction statistics<br>d. User recommendations<br>e. SMC recommendations |
|---|---|---|---|---|
| | | | SMC-8790#B | The SMC shall have the capability to generate, as necessary, a list of proposed enhancements with at least these elements:<br>a. Proposal name<br>b. Description of enhancement<br>c. Rationale<br>d. Impacts<br>e. Costs<br>f. Milestone schedule |
| | | | SMC-8770#B | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| | | | SMC-8750#B | The SMC shall have the capability to generate detailed and summary training reports, including, at a minimum:<br>a. Training programs<br>b. Training course schedules<br>c. Training course contents<br>d. Training course locations<br>e. Training attendees |
| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
| | | | SMC-8700#B | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |

| | | | SMC-8305#B | The LSM shall have the same report generator capability as for the SMC, except it shall be limited to generating reports covering only its particular site or its particular element. |
|---|---|---|---|---|
| | | | SMC-4305#B | The LSM shall maintain  fault management policies and procedures for its element. |
| | | | SMC-2605#B | The LSM shall support the site and element in implementing  ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-2600#B | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

## System Management Subsystem L4 to RbR traceability

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|---|---|---|---|---|
| | | | SMC-2505#B | The LSM shall update the system-wide inventory data base consisting of all hardware, system software, and scientific software contained within its element. |
| | | | SMC-2500#B | The SMC shall establish and maintain a system-wide inventory of all hardware, scientific and system software  contained within ECS,  including at a minimum:<br>a. Hardware or software identification numbers<br>b. Version numbers and dates<br>c. Manufacturer<br>d. Part number<br>e. Serial number<br>f. Name and locator information for software maintenance<br>g. Location where hardware or software is used |
| | | | SMC-2310#B | The SMC shall oversee the replenishment of spare parts for all elements. |
| | | | SMC-2315#B | The LSM shall manage the replenishment of spare parts within its element. |
| | | | SMC-2305#B | The LSM shall monitor the spares inventory within its element. |
| | | | SMC-2325#B | The LSM shall monitor the consumable inventory within its element for items used by the system including, at a minimum:<br>a. Computer tapes<br>b. Computer disks<br>c. Computer paper |
| | | | SMC-3421#A | The SMC shall analyze user feedback information supporting the development of recommended remedial or enhancement actions. |

## System Management Subsystem L4 to RbR traceability

| C-MSS-91025 | A | The MSS Office Automation spreadsheet capability shall be capable of importing from and exporting to ASCII text and Excel formats. | SMC-2600#A | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| --- | --- | --- | --- | --- |
| | | | SMC-2600#B | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

*System Management Subsystem L4 to RbR traceability*

| | | | SMC-2605#B | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum: a. Element responsibility and authority b. Resource management c. Fault recovery d. Testing e. Simulation f. Maintenance g. Logistics h. Performance evaluation i. Training j. Quality and product assurance k. Inventory management l. System enhancements m. Finance management n. Administrative actions o. Security |
| --- | --- | --- | --- | --- |
| | | | SMC-2605#A | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum: a. Element responsibility and authority b. Resource management c. Fault recovery d. Testing e. Simulation f. Maintenance g. Logistics h. Performance evaluation i. Training j. Quality and product assurance k. Inventory management l. System enhancements m. Finance management n. Administrative actions o. Security |

## System Management Subsystem L4 to RbR traceability

| C-MSS-91030 | A | The MSS Office Automation shall provide a graphics capability that enables:<br>a.    the development, modification, recording, and printing of graphic images<br>b.    the transfer of graphics images to word processing documents, messages, and reports. | SMC-8700#A | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
|---|---|---|---|---|
| | | | SMC-2605#B | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-8705#A | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |

| | | | SMC-2600#B | |
|---|---|---|---|---|
| | | | | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-8841#A | |
| | | | | The SMC shall have the capability to generate detailed and summary user feedback analysis reports describing the results of analyzing user satisfaction queries, including, at a minimum:<br>a. User information<br>b. Type of transaction<br>c. Satisfaction statistics<br>d. User recommendations<br>e. SMC recommendations |
| | | | SMC-8700#B | |
| | | | | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |
| | | | SMC-8841#B | |
| | | | | The SMC shall have the capability to generate detailed and summary user feedback analysis reports describing the results of analyzing user satisfaction queries, including, at a minimum:<br>a. User information<br>b. Type of transaction<br>c. Satisfaction statistics<br>d. User recommendations<br>e. SMC recommendations |

## System Management Subsystem L4 to RbR traceability

| | | | SMC-8705#B | The LSM shall have the capability to generate the same types of reports listed under the SMC report generation service, except that each report shall cover only its particular site or its particular element. |
|---|---|---|---|---|
| | | | SMC-2600#A | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| | | | SMC-2605#A | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

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## System Management Subsystem L4 to RbR traceability

| C-MSS-91035 | A | The MSS Office Automation graphics capability shall be capable of importing from and exporting to Postscript and GIF formats. | SMC-2600#A | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
|---|---|---|---|---|
| | | | SMC-2605#B | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |

| | | | SMC-2600#B | The SMC shall support, control, and maintain ECS policies and procedures covering the following areas, at a minimum:<br>a. Site or element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
|---|---|---|---|---|
| | | | SMC-2605#A | The LSM shall support the site and element in implementing ESDIS Project policies and procedures received from the SMC covering the following areas, at a minimum:<br>a. Element responsibility and authority<br>b. Resource management<br>c. Fault recovery<br>d. Testing<br>e. Simulation<br>f. Maintenance<br>g. Logistics<br>h. Performance evaluation<br>i. Training<br>j. Quality and product assurance<br>k. Inventory management<br>l. System enhancements<br>m. Finance management<br>n. Administrative actions<br>o. Security |
| C-MSS-92010 | B | The MSS Report Generation Service shall be capable of generating standard and ad-hoc reports and queries on all or portions of the management and related data maintained in the management database. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |

| C-MSS-92020 | B | The MSS Report Generation Service shall provide a Motif based GUI workbench for use by database specialist M&O staff in generating standard and ad-hoc reports and queries. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
|---|---|---|---|---|
| C-MSS-92030 | B | The MSS Report Generation Service shall provide an HTML based user interface for use by non-database specialists on the M&O staff in requesting standard reports. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| C-MSS-92040 | B | The MSS Report Generation Service shall be capable of outputting generated reports to the user's console, a file, or a printer | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| C-MSS-92050 | B | The MSS Report Generation Service shall be capable of outputting report query results to a file in a tabular format which can be imported by analysis tools such as spreadsheets | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| C-MSS-92060 | B | The MSS Report Generation Service shall be capable of outputting reports to a file in an HTML compatible format. | SMC-8300#B | The SMC shall have a generalized report generator with the capability to customize output reports covering, at a minimum, data previously captured in a management DBMS including:<br>a. All or portions of the system<br>b. Variable amounts of time |
| C-MSS-92070 | B | The MSS Report Generation Service shall be capable of generating an Enhancement Proposal Status Report containing the status of proposed enhancements including:<br>a. name<br>b. description<br>c. rationale<br>d. impacts<br>e. cost to implement<br> f. implementation milestone schedule | SMC-8790#B | The SMC shall have the capability to generate, as necessary, a list of proposed enhancements with at least these elements:<br>a. Proposal name<br>b. Description of enhancement<br>c. Rationale<br>d. Impacts<br>e. Costs<br>f. Milestone schedule |

## System Management Subsystem L4 to RbR traceability

| C-MSS-92080 | B | The MSS Report Generation Service shall be capable of generating a Routine Data Production Performance Detail Report itemizing scheduled vs actual times for data collection, processing, retrieval and delivery along with:<br> a. reason for schedule variance<br>b. data quality<br>c. user feedback | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
|---|---|---|---|---|
| C-MSS-92090 | B | The MSS Report Generation Service shall be capable of generating a Routine Data Production Performance Summary Report containing statistical rollups of scheduled vs actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data. | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
| C-MSS-92100 | B | The MSS Report Generation Service shall be capable of generating a User Requested Data Production Performance Detail Report containing scheduled vs actual times for data collection, processing, retrieval and delivery along with:<br>a. reason for schedule variance<br>b. data quality<br>c. user feedback | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |

| C-MSS-92110 | B | The MSS Report Generation Service shall be capable of generating a User Requested Data Production Performance Summary Report containing statistical rollups of scheduled vs actual deviations, data quality, and user feedback for data collection, processing, retrieval, and delivery of routine production data | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
|---|---|---|---|---|
| C-MSS-92120 | B | The MSS Report Generation Service shall be capable of generating a Ground Operations Activity Performance Detail Report containing scheduled vs actual times for ground events  such as maintenance, training, reconfiguration. The report shall detail:<br>a. reason for schedule variance<br>b. user feedback | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
| C-MSS-92130 | B | The MSS Report Generation Service shall be capable of generating a Ground Operations Event Performance Summary Report containing statistical rollups of scheduled vs actual deviations for ground events  such as maintenance, testing, reconfiguration. | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
| C-MSS-92140 | B | The MSS Report Generation Service shall be capable of generating a Product Generation Status Detail Report containing the status of all product processing/reprocessing and storage. | SMC-8820#B | The SMC shall have the capability to generate detailed and summary reports indicating the product generation status  made in processing, reprocessing, and storage of all standard products. |

| C-MSS-92150 | B | The MSS Report Generation Service shall be capable of generating a Product Generation Status Summary Report containing the percent distribution of product generation work within each processing state. | SMC-8820#B | The SMC shall have the capability to generate detailed and summary reports indicating the product generation status made in processing, reprocessing, and storage of all standard products. |
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| C-MSS-92160 | B | The MSS Report Generation Service shall be capable of generating a Resource Performance Report containing:<br>a. Availability<br>b. Reason for downtime<br>c. Utilization<br>d. Indication of compliance with performance criteria.<br>e. Short and long term trend analysis and capacity planning results | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| C-MSS-92170 | B | The MSS Report Generation Service shall be capable of generating a CPU Load Report graphically depicting the average number of jobs in the run queue over the last 1, 5, and 15 minute period for each selected node. | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| C-MSS-92180 | B | The MSS Report Generation Service shall be capable of generating an Interface Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s). | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| C-MSS-92190 | B | The MSS Report Generation Service shall be capable of generating an Ethernet Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s). | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |

## System Management Subsystem L4 to RbR traceability

| C-MSS-92200 | B | The MSS Report Generation Service shall be capable of generating an SNMP Traffic Report graphically plotting network packet statistics in real-time for the operator selected SNMP node(s). | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
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| C-MSS-92210 | B | The MSS Report Generation Service shall be capable of generating an SNMP Operations Report graphically plotting the number of selected SNMP operations/sec requested to be performed by the SNMP agent on the selected node(s). | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| C-MSS-92220 | B | The MSS Report Generation Service shall be capable of generating a Site Host Resource Utilization Report indicating minimum/average/maximum measured percent usage of host CPU and memory resources and disk reads and writes over the report interval. | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| C-MSS-92230 | B | The MSS Report Generation Service shall be capable of generating a SMC Host Resource Utilization Report indicating minimum/average/maximum measured percent usage of SMC host CPU and memory resources and disk reads and writes over the report interval. | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |
| C-MSS-92240 | B | The MSS Report Generation Service shall be capable of generating a Disk Space Report which lists the file system space available on a selected managed host node. | SMC-8840#B | The SMC shall have the capability to generate detailed and summary reports indicating the performance of ground resources, including, at a minimum:<br>a. Resource availability<br>b. Reason for down time<br>c. Resource utilization<br>d. Ability of resource to meet performance criteria<br>e. Short and long-term trend analysis and capacity planning results |

## System Management Subsystem L4 to RbR traceability

| C-MSS-92250 | B | The MSS Report Generation Service shall be capable of generating a User Service Performance Report containing summary and detailed analysis of user feedback including:<br>a. User information<br>b. Type of transaction<br>c. Satisfaction statistics<br>d. User recommendations<br>e. SMC recommendations | SMC-8841#B | The SMC shall have the capability to generate detailed and summary user feedback analysis reports describing the results of analyzing user satisfaction queries, including, at a minimum:<br>a. User information<br>b. Type of transaction<br>c. Satisfaction statistics<br>d. User recommendations<br>e. SMC recommendations |
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| C-MSS-92260 | B | The MSS Report Generation Service shall be capable of generating a Data Distribution Performance Report listing time a request received, assigned, processed, verified, and delivered and variances from nominal. | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
| C-MSS-92270 | B | The MSS Report Generation Service shall be capable of generating a Media Distribution Profile Report containing the statistical distribution of routine and user-requested products by electronic means and physical media type over the reporting period. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92280 | B | The MSS Report Generation Service shall be capable of generating a Data Orders Tracking Summary Report containing summary statistics on product order request dispositions over the reporting period. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92290 | B | The MSS Report Generation Service shall be capable of generating a Data Products Tracking Summary Report containing statistics on distribution of dataset orders by dataset type. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |

| C-MSS-92300 | B | The MSS Report Generation Service shall be capable of generating a Returned Product Summary Report containing summary list of product returns with reason, cost, site action, and current status. | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
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| C-MSS-92310 | B | The MSS Report Generation Service shall be capable of generating a Fault Management Report containing summary and detailed information on fault management of ground resources including:<br>a. Fault type and description<br>b. Time of fault occurrence<br>c. Effect of fault on system<br>d. Status of fault resolution<br>e. Fault statistics | SMC-8860#B | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-92320 | B | The MSS Report Generation Service shall be capable of generating a Trouble Status Report containing statistics on the number of trouble tickets opened, closed, and in work at a site and the average time to close a trouble ticket over the reporting period. | SMC-8860#B | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-92330 | B | The MSS Report Generation Service shall be capable of generating an Ethernet Errors Report graphically depicting Ethernet error statistics for a selected node in real-time. | SMC-8860#B | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |

## System Management Subsystem L4 to RbR traceability

| C-MSS-92340 | B | The MSS Report Generation Service shall be capable of generating an SNMP Errors report graphically depicting SNMP error statistics in real-time for the selected network nodes. | SMC-8860#B | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
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| C-MSS-92350 | B | The MSS Report Generation Service shall be capable of generating an SNMP Authentication Failures Report listing the management systems that caused an authentication failure on the operator selected node(s). | SMC-8860#B | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-92360 | B | The MSS Report Generation Service shall be capable of generating an SNMP Event Log Report containing a chronological list of SNMP events which occurred over the report interval for the selected node(s). | SMC-8860#B | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
| C-MSS-92370 | B | The MSS Report Generation Service shall be capable of generating a Site Host Errors Report containing a statistical summary of the types of errors logged at each host at a site over the reporting period. | SMC-8860#B | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |

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## System Management Subsystem L4 to RbR traceability

| C-MSS-92380 | B | The MSS Report Generation Service shall be capable of generating an EMC Host Errors Report containing a statistical summary of the types of errors logged at each site over the reporting period. | SMC-8860#B | The SMC shall have the capability to generate detailed and summary fault management reports describing the fault management of ground resources, including, at a minimum:<br>a. Fault type and description<br>b. Time of occurrence of fault<br>c. Effect on system<br>d. Status of fault resolution<br>e. Fault statistics |
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| C-MSS-92390 | B | The MSS Report Generation Service shall be capable of generating a Ground Resource Availability Audit Report itemizing the occurrence of each resource outage, the reason for the outage, the duration, and the availability over the report interval. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92400 | B | The MSS Report Generation Service shall be capable of generating a Data Accountability Audit Report tracing a data item's status changes/ accesses over the reporting interval. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92410 | B | The MSS Report Generation Service shall be capable of generating a Pending Service Request Audit Report tracing processing events for requests currently in-progress. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92420 | B | The MSS Report Generation Service shall be capable of generating a User Activity Audit Report tracing a user's activity during a logon including products requested and files accessed. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92430 | B | The MSS Report Generation Service shall be capable of generating a Security Audit Report. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92440 | B | The MSS Report Generation Service shall be capable of generating a User Characterization Report containing user statistical summary information on number of new/ repeat accesses and summary information by product interest, mode of access, and affiliation. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |

## System Management Subsystem L4 to RbR traceability

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| C-MSS-92450 | B | The MSS Report Generation Service shall be capable of generating a System Access Profile Report containing statistics on distribution of user accesses by system service type over the selected reporting interval. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92460 | B | The MSS Report Generation Service shall be capable of generating a Utilization of User Services Personnel Summary Report depicting the distribution of user services requests by request type and method of contact over the report interval. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92470 | B | The MSS Report Generation Service shall be capable of generating a Storage Management Activity Report containing a list of storage management events for the selected start/stop time, intermediate operation, request ID, and staging resource. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92480 | B | The MSS Report Generation Service shall be capable of generating a Storage Management Inventory Update Report containing the log of storage management inventory update events for the selected reporting period. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92490 | B | The MSS Report Generation Service shall be capable of generating an Ingest History Report containing the log of ingest events selected by start/stop time, external data provider, data type identifier, and request status. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92500 | B | The MSS Report Generation Service shall be capable of generating an Ingest Error Report containing the log of ingest error events for the reporting period. | SMC-8890#B | The SMC shall have the capability to generate detailed and summary accountability reports describing the results of accounting audits of ground resources, security, work-in-process, data, and users of the system. |
| C-MSS-92510 | B | The MSS Report Generation Service shall be capable of generating a Processing Log Report containing the log of product processing events selected by start/stop time, data type identifier, and processing status. | SMC-6335#B | The LSM shall, as needed, maintain and update a data tracking system that, at a minimum:<br>a. Tracks data transport from element input to element output<br>b. Allows the status of all product-production activities to be determined |

| | | | SMC-8820#B | The SMC shall have the capability to generate detailed and summary reports indicating the product generation status made in processing, reprocessing, and storage of all standard products. |
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| C-MSS-92520 | B | The MSS Report Generation Service shall be capable of generating a Production and Data Processing Request Status Report containing the list of pending production and user-requested product data processing requests. | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
| C-MSS-92530 | B | The MSS Report Generation Service shall be capable of generating a Planning Workload and Processing Turn-Around Report. | SMC-8800#B | The SMC shall have the capability to generate detailed and summary reports indicating the overall performance of the ECS.  At a minimum, they shall include:<br>a. Scheduled versus actual data collection, processing, retrieval, and delivery of routine data<br>b. Scheduled versus actual data collection, processing, retrieval, and delivery of user requested data<br>c. Reason(s) for failure to meet schedules<br>d. Quality of the data<br>e. Ground operations event execution<br>f. Number of interactive user requests and timeliness of response<br>g. User feedback |
| | | | PGS-0420#B | The PGS shall provide tools to analyze system performance. |
| C-MSS-92540 | B | The MSS Report Generation Service shall be capable of generating a Planning Management Report. | SMC-3315#B | The LSM shall monitor its elements schedule and execution of events. |
| C-MSS-92550 | B | The MSS Report Generation Service shall be capable of generating an Account Authorization Report containing authorized resource usage and current balance by user/ group. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |

## System Management Subsystem L4 to RbR traceability

| C-MSS-92560 | B | The MSS Report Generation Service shall be capable of generating a Service Cost Schedule Report containing resource usage cost by service offered. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
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| C-MSS-92570 | B | The MSS Report Generation Service shall be capable of generating a Standard Product Cost Schedule Report containing end to end cost accounting information by standard product. | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-92580 | B | The MSS Report Generation Service shall be capable of generating an Accounts Payable Report by user/ group | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-92590 | B | The MSS Report Generation Service shall be capable of generating an Accounts Receivable Report by user/group | SMC-8920#B | The SMC shall have the capability to generate detailed and summary reports indicating the financial accounting of ground segment resource utilization by ECS and external users, including, at a minimum:<br>a. Account authorization and balances by users/groups<br>b. Resource utilization costs by service rendered<br>c. End-to-end cost accounting information by standard product<br>d. User/group accounts payable/accounts receivable information |
| C-MSS-92600 | B | The MSS Report Generation Service shall be capable of generating a Functional Allocation Report containing current assignment of:<br>a. standard product generation/ storage responsibility to a segment/ element<br>b. assignment of science instrument support to an ICC | SMC-8700#B | The SMC shall have the capability to generate a functional allocation report which gives the current allocation of ground segment functions to the sites and elements, including, at a minimum:<br>a. The allocation of generation and storage function by standard product to each active archive<br>b. The allocation of instrument responsibility to each ICC |

## System Management Subsystem L4 to RbR traceability

| C-MSS-92610 | B | The MSS Report Generation Service shall be capable of generating a Configuration Status Report noting the operational status of all H/W, system S/W and science S/W with a reason why an item is not currently operational | SMC-8710#B | The SMC shall have the capability to generate summary and detailed configuration status reports that includes, at a minimum: a. Current status of all hardware, system and scientific software b. Reason why item not currently operational. |
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| C-MSS-92620 | B | The MSS Report Generation Service shall be capable of generating a System Information Report for a selected managed object containing name, description, contact person, location, and system object identification. | SMC-8710#B | The SMC shall have the capability to generate summary and detailed configuration status reports that includes, at a minimum: a. Current status of all hardware, system and scientific software b. Reason why item not currently operational. |
| C-MSS-92630 | B | The MSS Report Generation Service shall be capable of generating an SNMP Event Notification report identifying the IP address(es) of the management system(s) to which the selected node is configured to send SNMP events. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-92640 | B | The MSS Report Generation Service shall be capable of generating an Indentured Level of Assembly List Report for all managed configuration items (CIs). | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-92650 | B | The MSS Report Generation Service shall be capable of generating a Document Configuration Status Report containing the identity and status of documents associated with ECS resources. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-92660 | B | The MSS report generation service shall be capable of generating a System Configuration Tracking Report noting the migration of upgrades into the operational environment. | SMC-2510#B | The SMC shall provide at a minimum system-wide configuration management for the operational hardware, scientific and system software, and the SMC toolkit contained within ECS.  The management system shall  support the migration of hardware and software upgrades into the operational environment. |
| C-MSS-92670 | B | The MSS Report Generation Service shall be capable of generating a Maintenance Schedule Report on H/W, system S/W and science S/W indicating the type of maintenance (i.e,  routine, non-routine and upgrade) | SMC-8730#B | The SMC shall have the capability to generate reports showing detailed and summary information about the maintenance schedule for system hardware, system software, and scientific software, including, at a minimum: a. Routine maintenance schedules b. Non-routine maintenance schedules c. Upgrade maintenance schedule |

## System Management Subsystem L4 to RbR traceability

| C-MSS-92680 | B | The MSS Report Generation Service shall be capable of generating a Training Program Report containing<br>a. Training programs<br>b. Training schedules<br>c. Training course contents<br>d. Training course locations<br>e. Training attendees | SMC-8750#B | The SMC shall have the capability to generate detailed and summary training reports, including, at a minimum:<br>a. Training programs<br>b. Training course schedules<br>c. Training course contents<br>d. Training course locations<br>e. Training attendees |
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| C-MSS-92690 | B | The MSS Report Generation Service shall be capable of generating an Inventory Status Report containing summary and detailed status information on H/W, system S/W and science S/W and listing spares and consumables status at sites. | SMC-8770#B | The SMC shall have the capability to generate, at a minimum, detailed and summary reports showing the inventory of:<br>a. Hardware, system, and scientific software<br>b. Spares and consumables |
| C-MSS-92700 | B | The MSS Report Generation Service shall be capable of generating a Security Compromise Report listing occurrences of login failures, unauthorized accesses, breakins, viruses and worms indicating time, cause, impact, resolution status, and results of security compromise risk analysis. | SMC-8880#B | The SMC shall have the capability to generate detailed and summary security compromise reports indicating security compromises of ground resources and facilities, including, at a minimum:<br>a. Security compromise type and description<br>b. Time of occurrence<br>c. Cause of security compromise<br>d. Impact on system<br>e. Status of security compromise resolution<br>f. Security compromise statistics<br>g. Results of security compromise risk analysis |
| C-MSS-92710 | B | The MSS Report Generation Service shall be capable of generating a Security Compromise Statistics Report containing cumulative frequency of violation occurrence statistics by type, site, day of week, and successful/failure. | SMC-8880#B | The SMC shall have the capability to generate detailed and summary security compromise reports indicating security compromises of ground resources and facilities, including, at a minimum:<br>a. Security compromise type and description<br>b. Time of occurrence<br>c. Cause of security compromise<br>d. Impact on system<br>e. Status of security compromise resolution<br>f. Security compromise statistics<br>g. Results of security compromise risk analysis |

## *System Management Subsystem L4 to RbR traceability*

| C-MSS-92720 | B | The MSS Report Generation Service shall be capable of generating a Virus Detection Report containing statistics on detected viruses/worms in the selected network nodes and actions taken. | SMC-8880#B | The SMC shall have the capability to generate detailed and summary security compromise reports indicating security compromises of ground resources and facilities, including, at a minimum:<br>a. Security compromise type and description<br>b. Time of occurrence<br>c. Cause of security compromise<br>d. Impact on system<br>e. Status of security compromise resolution<br>f. Security compromise statistics<br>g. Results of security compromise risk analysis |
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